# MEDICAL RECORD

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—Aristotle

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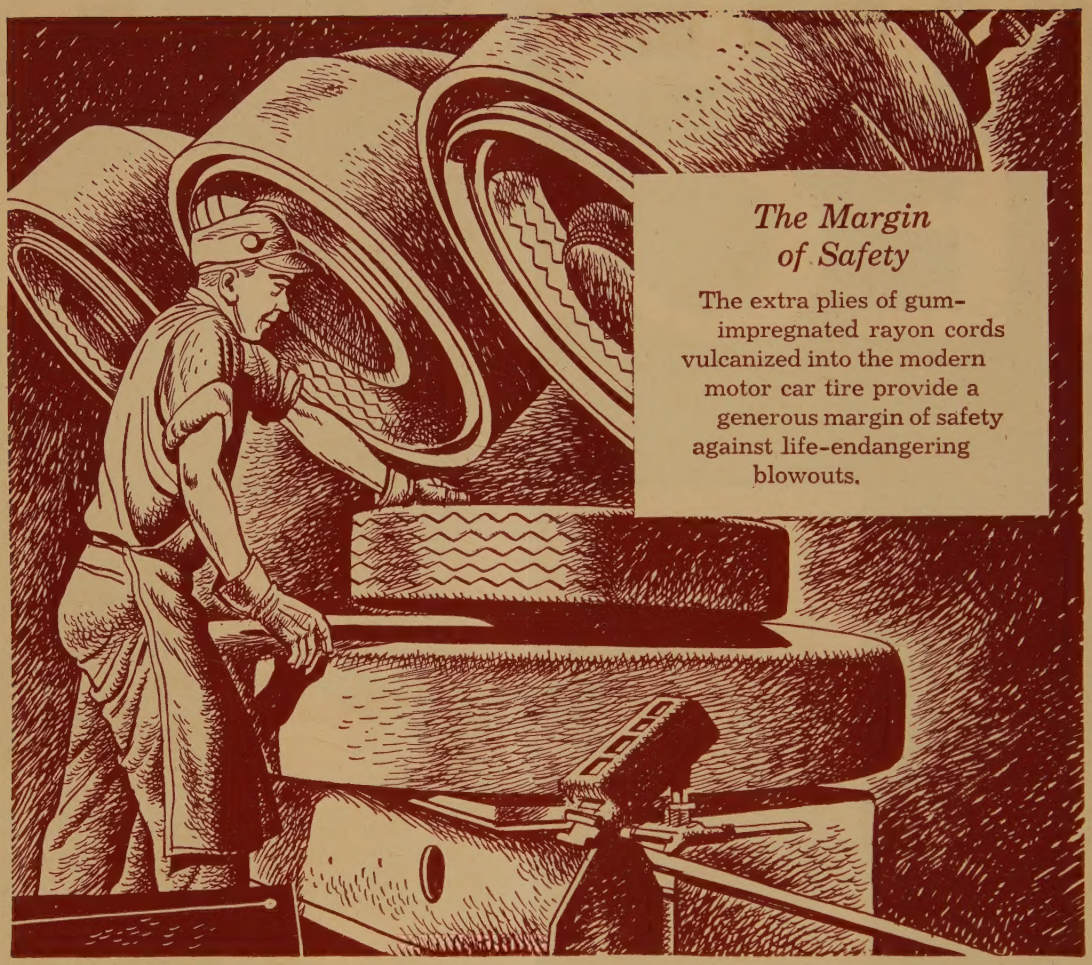
Vol. 159. No. 6



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• "Penicillin was the drug of choice and it was determined to try the drug in massive doses....It was finally decided that this patient would be given 7,000,000 units of penicillin over a period of 14 days." Captain McCrea, H. J., Major Steven, R. A., and Major Williams, O. O.: Actinomycotic Infection of Soft Tissues of the Neck; Apparent Cure Following Large Doses of Penicillin, Dentistry, 6:1, 51-52, (Sept.) 1945.

• "Forty-three patients with Vincent's infection were treated with 600,000 - 1,000,000 units of penicillin intramuscularly in doses of 25,000 units every three hours. All patients were cured." Sweeney, J. S., Morginson, W. J., Robinson, R. W., and Kilpatrick, E. M.: Effectiveness of Penicillin in the Treatment of Vincent's Infection, The Dental Magazine and Oral Topics, 62:2, 114, (July) 1945.

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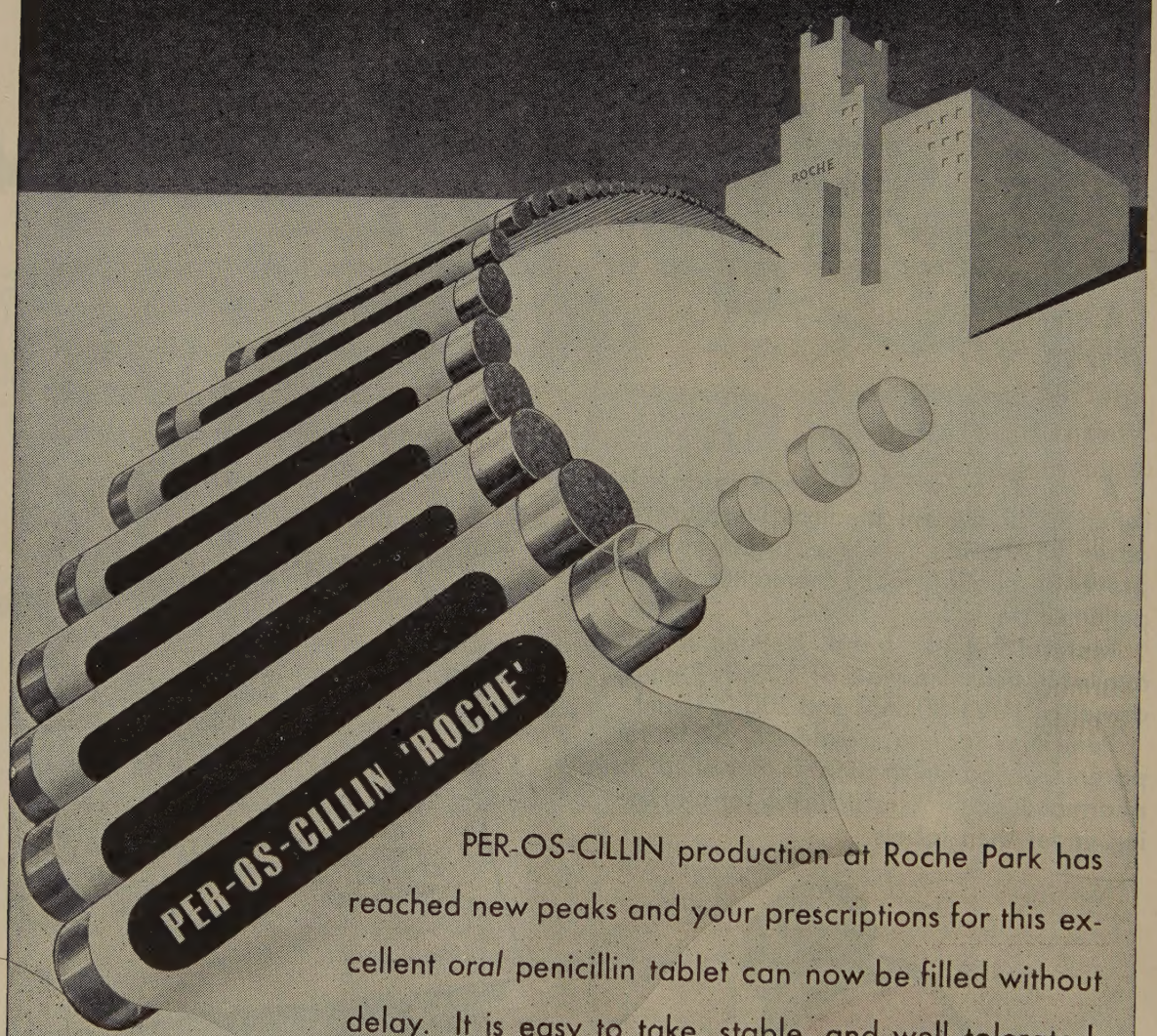


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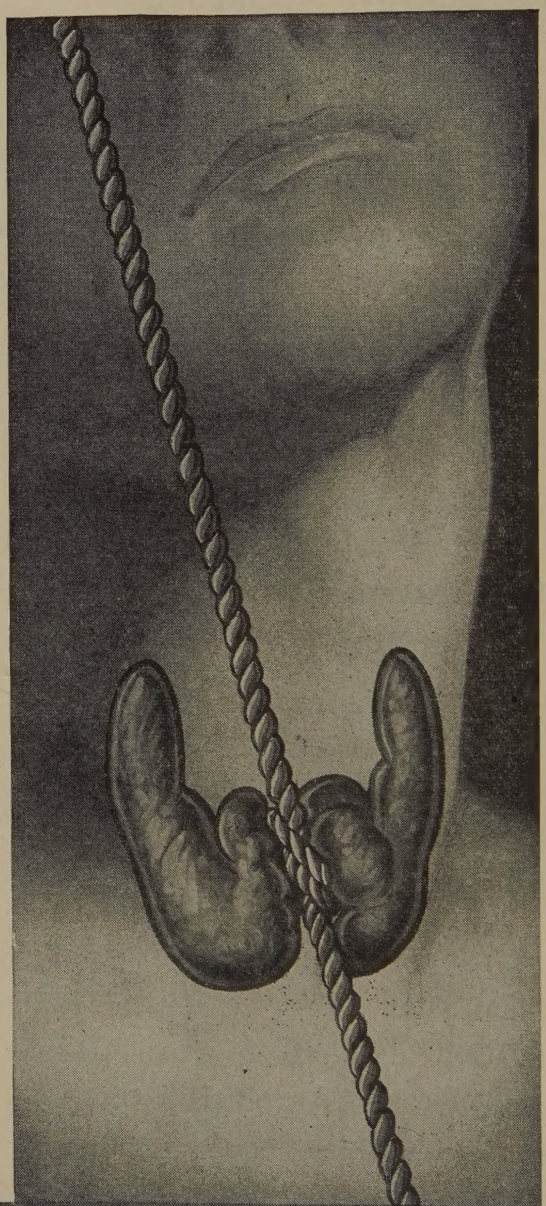

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## Public Health Program Recommended for New York State

A greatly expanded health program for New York State was recommended recently by Governor Thomas E. Dewey in a special message to the Legislature. The adoption of this program he said would be the broadest step forward in health service ever undertaken by this State or any other State (*Health News*, March 25, 1946).

The proposed program was charted by a committee consisting of Dr. Edward S. Godfrey, Jr., State Commissioner of Health, chairman; Homer Folks and George J. Nelbach, State Charities Aid Association; Dr. R. M. Atwater, American Public Health Association; Assemblyman Lee B. Mailler, Health Preparedness Commission; Robert T. Lansdale, state commissioner of social welfare; John E. Burton, director of the budget; Charles D. Breitel, counsel to the Governor; Dr. Robert E. Plunkett, general superintendent of state tuberculosis hospitals; and Dr. John J. Bourke, secretary of the Joint Hospital Board.

The program is directed toward the following objectives: Increased state assistance for public health work to encourage improved and integrated local health departments; establishment of a professional recruitment and training program for public health physicians, nurses and sanitary engineers to provide a reservoir of competent professional personnel for local and state public health service an all-out drive against tuberculosis with the objective of eradicating the disease in this State in twenty years or less; and designation by executive action of an Interdepartmental Health Council composed of the Commissioners of Health, Social Welfare, Mental Hygiene, and Education, to be assisted by the chairman of the Health Preparedness Commission.

The report of the committee included a discussion of certain other unmet or inadequately covered fields of public health which can be developed either through the expansion of local health services as presented in the committee's proposals, or as the result of study by the proposed Interdepartmental Health Council. These fields relate to school health, maternal and child health, neuropsychiatric problems, the chronically ill, industrial health, accident prevention, and the maldistribution geographically of physicians and nurses. In each of these fields, a more profound and broader development is required.

---

Colonel Thomas B. Turner, former director of the civil public health division, Office of the Surgeon General, has received the Legion of Merit for his part in "some of the most important advances made in preventive medicine service during World War II. Prior to his entrance into the Army, Colonel Turner was in charge of the division of venereal disease in the Johns Hopkins University School of Hygiene and Public Health, and served as consultant in venereal disease to the Rockefeller Foundation.


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# Open Forum

## Was Malthus Right?

T. SWANN HARDING
Falls Church, Va.

The Rev. T. R. Malthus was born in 1766 and left this vale of tears in 1834. He is chiefly notable today for his well-known doctrine to the effect that population inevitably increased faster than the means of human subsistence could be made to do. Hence food scarcity progressed, inevitably, and the poorer classes were destined to go perpetually hungry.

Indeed, unless prudent restraints were exercised to check population growth, universal penury would result. However, Malthus was humane. He felt that humanity would be saved from starvation by poverty, vice, or some other benign instrument of benevolent Providence which would check population growth. Naturally Malthus made no allowance for the tremendous increase in food production which resulted from improved agricultural technology.

On the other hand he made no provision for the fact that human beings would in due time discover new and improved methods of tearing one another to pieces and also of blasting all means of agricultural and industrial production from large segments of the earth's surface. After all Malthus died over a quarter of a century before *blitzkrieg* and the scorched-earth policy were invented by Northern generals in the Civil War and used to blast the South.

Today the world food situation grows increasingly grave, famine faces many millions, and hunger grows apace. Was Malthus right? For that matter was hunger at all unusual in peacetimes, even in nations having the highest living standards existing? The unequivocable answer is *no!*

About two-thirds of the world's people have been accustomed to make their livings producing food. At the same time about two-thirds of the world's people have been accustomed to malnutrition and insufficient food in a world at peace. The 1918-39 armistice was marked by widespread hunger in cities and poverty on farms even in the United States of America and the United Kingdom, let alone colonials and Asiatics.

Meanwhile modern science had made it possible for the world to produce ample food to give all its people adequate diets. What we lacked was the social and economic inventiveness to devise ways of using abundance to promote the welfare of both the producers and consumers of food. Indeed one immediate remaining problem in this country is to enable or induce farm families to raise more food so that they themselves can eat properly.

Certainly the mild wartime food shortages we underwent in the United States portend no fulfillment of Malthus' prophesy. But, if the entire earth and recent human misbehavior are considered, his dark prediction is a little too close for comfort. At peace we have sabotaged food production and neglected sound distribution methods for price maintenance. At war we have wildly ravaged the earth and diverted agricultural labor, equipment, and supplies to destructive ends.

Yet, right while waging the most disastrous war in history, food production in the United States increased substantially above pre-war levels. This was done with fewer workers on farms than in 1870 and while many of those at work in agriculture were the aged, the young, the women, or urbanites who went to help for patriotic reasons. Food production in the United States is at least a third higher than it was during the average year of the 1935-39 period.

Sharp lessons were also learned regarding food distribution. In the United States rationing and higher incomes enabled our people as a whole to be fed better during the war than before, and this despite black markets. In the United Kingdom a monotonous wartime diet, adequate in calories and protein, high in minerals and most vitamins, but somewhat inadequate in vitamins A and C kept the population in better health than it enjoyed at peace.

Why? Because it was well distributed and because intelligent means of supplementing it were devised. No longer did the old gentlemen in the clubhouse windows get the choicest foods. It went to expectant and nursing mothers, to school children, to industrial canteens and British restaurants. The British government's actions in feeding a people at war were based squarely on scientific considerations. Similar planning of national and world nutrition at peace would bring adequate food to all.

Today, however, we face diminished world food production and lowered stocks of food. Total world farm production in 1945-46 will be about three to five percent less than the prewar average, in terms of calories. If due allowance is made for net increase in population during the war, that means a twelve percent lower output of food per capita. Conditions are much worse in wartorn areas than these averages suggest.

Meanwhile carry-over stocks of major foods have been sadly depleted. Supplies of rice, sugar, fats, and oils are far below prewar levels and even smaller than a year ago. Continental Europe, exclusive of the U.S.S.R., will be short by eighteen million tons of having sufficient food this year to maintain rations moderately above those of wartime in liberated countries, and to prevent widespread disease and unrest among urban populations in conquered areas.

Considering the ferocity and maniacal destructiveness of modern warfare, world food production held up remarkably during the strife. There were also huge diversions of men, equipment, and materials from agricultural pursuits. North American food production, while somewhat below that for last year, is still a third higher than prewar. South American production for 1945-46 will probably exceed that for 1944-45 which, because of drought, was only seven percent above prewar levels.

On the other hand, production for Continental Europe, exclusive of U.S.S.R., and of North Africa, has declined twenty-five percent below prewar.

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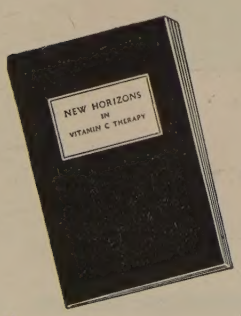


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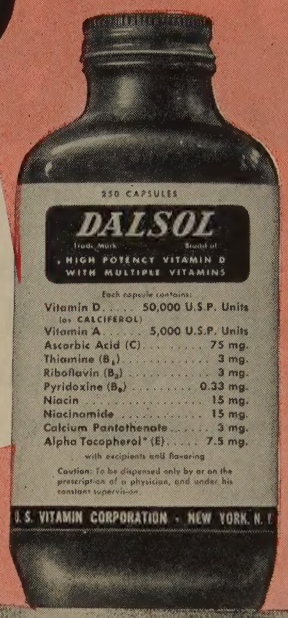
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A production decrease almost as great has occurred in Japan where domestic production cannot meet minimum domestic requirements. Production in all Japanese-occupied areas has declined sharply, while China will be short two million tons of wheat and rice of having sufficient food for urban areas.

India's food shortages are chronic and still continue, while the Philippines, Ceylon, and the Netherlands East Indies must import food. Then there are permanent deficit food areas to be considered, such as the United Kingdom, ordinarily the largest food importer in the world, and now in need of nine million tons thereof to maintain wartime consumption levels. This is in the face of the fact that the United Kingdom's food production is now far above prewar levels.

Food increases in the Western Hemisphere have consisted in the main of concentrates—fats and oils, meat, poultry, eggs, dried beans and peas, sugar, and cereals. Food increases in deficit countries have quite generally been made at the expense of livestock and forage crops. The trend there has been towards more vegetables and cereals, with a sharp decline in production of concentrated foods.

Many European nations have now long had low-caloric rations. It will take a season or more for them to change their patterns of agricultural production and increase output. Meanwhile there is a worldwide shortage of many commodities of which we long produced market surpluses in the United States—merely because our income distribution was so inequitable many could not afford to buy them. For a large percentage of the world's population went undernourished before the war as a matter of consistent and deliberate policy and in spite of food sulpluses in certain regions. At the same time neglected soil erosion ravaged many rich acres in another way and neither water nor forest resources were properly conserved.

Science knows how to solve all these problems. Over and over again organized research proved capable of solving the most difficult problems war presented. Consequently it produced the most effective antibiotic substance and the finest insecticide so far known. It produced radar and the atomic bomb as requested. When asked to turn out a shell that would automatically explode as it neared the target, organized research presented that which was required with the greatest dispatch.

That science could as readily solve the cancer, the circulatory disease, and the world food problem, if properly organized and financed, goes without saying. Easiest of these to solve is the last as it requires only the application of scientific knowledge already in the hands of economists, agriculturalists, and experts in nutrition.

The first step taken towards bettering the world's food situation by reorganizing world feeding on known scientific principles, occurred when the United Nations Conference on Food and Agriculture was held at Hot Springs in May and June, 1943. From this conference sprang the Interim Commis-

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sion on Food and Agriculture and from that the United Nations Food and Agricultural Organization, (FAO). Its objectives are as follows:

To raise the nutrition levels and the living standards of peoples in all participating nations; to improve the efficiency of food and farm production generally throughout the world; to better the living standards of all rural populations; and to aid an expanding world economy.

FAO will compile, analyze, interpret, and disseminate information relating to nutrition, food, and agriculture. At the request of the participating nations it will furnish technical assistance and organize technical missions to help put recommended policies into practice. It will procure periodical reports from member nations on actions taken in line with its recommendations.

One of its most fruitful fields will be that in the prosaic and dolorous realm of statistics. For these must be compiled covering world food production possibilities, existing food supplies, and potential food requirements. We cannot balance food output against needs by guess work. We cannot do so while idly sitting by to let "natural law" take its course. We must take direct action on sound scientific principles to make nature's laws work to human advantage.

Comprehensive statistics on food production, stocks, and requirements, and on world agricultural and distribution possibilities would then for the first time give us a clear picture of what the earth has on hand, what it can produce and where, and how this output should best be used globally. Then we could decide which nations should produce which commodities since they could do so most efficiently, economically, and abundantly. Food-importing countries would then have a clear idea what to expect.

Only in this way can world trade in agricultural products become orderly. Only thus can it evolve into a scientific system for providing the required nutritive elements to all people at all times. Only thus can the mad scramble to dump "surpluses" of a few heavily produced commodities which lack an "effective" home market be ended. In this way alone can the underlying identity of interest between the producers and consumers of food be revealed.

Urgent, immediate problems must be solved quickly, however, as Secretary of Agriculture Anderson indicated recently. We must do all that we can to share our food with those who suffer from war's devastation. This we can do without starving ourselves in the least. From the beginning to the end of the Lend-Lease program we sent fifteen million tons of food abroad. That seems like an enormous quantity, yet, in terms of our 1944 production, it was but seven percent of our output.

More recently we have distributed almost three million tons of food through Army facilities. At the same time our domestic food situation has rapidly improved, though declining income will inevitably taper off demand. But we have ample of the following foods to send to liberated areas: canned and some fresh and frozen meats of the lower

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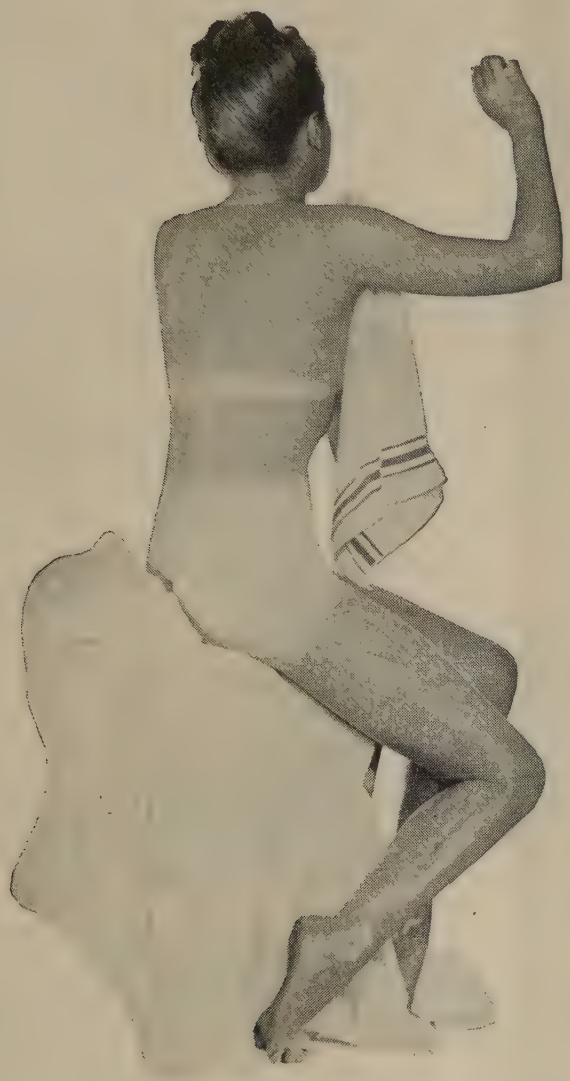

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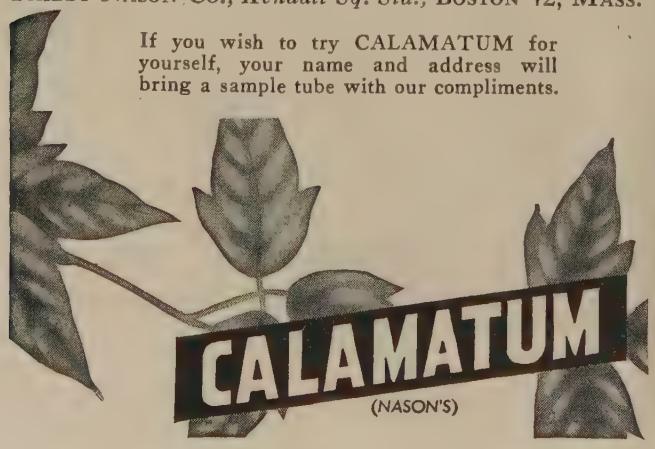


grades, some cheaper types of canned fish, canned and powdered milk, eggs, cheese, potatoes, some dry beans and peas, dried fruits, rice, corn and wheat.

Our supplies of all the following foods are destined to increase on the domestic market: meats, canned fish, canned fruit, fruit juices and vegetables, poultry, dried skim and dried whole milk, canned milk, fluid cream, potatoes, and eggs. Even our supplies of butter, cheese, and pork will gradually improve. Only sugar, rice, cereal products, dried beans and peas, and fats and oils will remain somewhat scarce for shorter or longer periods. Fresh vegetables, citrus fruit, fresh and frozen fish, frozen fruit and vegetables, and fluid milk will continue plentiful..

Other surplus-producing countries are doing their best to aid those who lack food. New Zealand and Australia are rationing both meats and dairy products in the effort to help; similar steps have been taken by Denmark and Sweden. Canada has resumed meat rationing in order to export more. We too are committed to help meet food needs in war-ravaged countries by a policy set forth by President Truman.

Food shipments to deficit areas must come in the main from those countries which exported most to the Allied nations during the war period. A third of these exports originated in the United States, about a sixth each in Canada and Argentina, and most of the remaining third in Australia, Brazil, India, and New Zealand. Our exports should be as high in any war year, say seven percent of our food output.

At present, then, the flow of our food commodities to war-devastated countries presents a problem both of finance and of supply or shipping. But the job must be done if the world is to attain equilibrium sufficiently to reorganize itself politically and otherwise. Then, with FAO applying scientific principles to world food production and consumption, things should improve rapidly after two or three years.

Then, let us hope, there will be no more need for filling urban stomachs at the expense of rural people who produce at a discount. Plans to maintain hungry consumers through food scarcities and high prices should be disrupted. Better diets for all people and better living for all food producers could be achieved together. But this marks a long uphill climb from wartime devastation and peacetime economic disorder.

Does the race which produced radar, penicillin, the proximity fuse, and the atom bomb lack the intelligence and determination to make this climb and achieve the objectives? If it does we shall soon have a sad world on our hands again, and Malthus might turn out to be right after all.

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*Gibert's disease.*—Camille Melchior Gibert first described pityriasis rosea, which bears his name. He was an energetic representative of the Willan system in France, and recognized the importance of parasitic diseases among school children. Gibert was born in 1797 and died in 1866.

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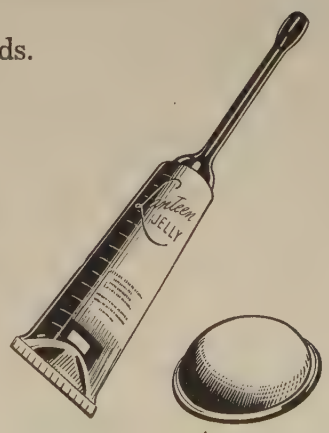


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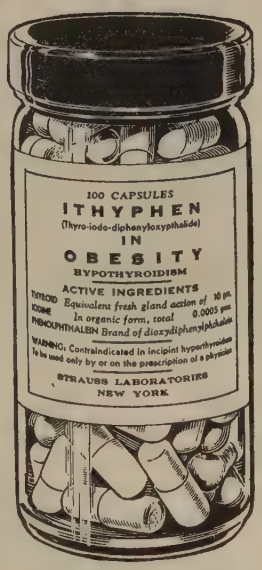


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## Russian Technical Literature

The present state of Russian scientific literature, especially that relating to chemistry, was discussed by J. G. Tolpin, of the Universal Oil Products Company, Chicago, at the Atlantic City meeting of the American Chemical Society. He pointed out certain trends in the development of this literature and told of the methods which he had found suitable for finding in the Russian chemical literature as much information as was possible under existing conditions.

In the recent past, he said, some American chemists had rejected the Russian chemical literature altogether, as containing no significant and original information. Others took a contrary view, while a third group realistically expected that among large numbers of research workers, there would undoubtedly be a certain percentage of capable men who would produce important data. A recent survey, however, showed that many American universities had now introduced instruction in Russian and some universities also were offering special courses in Russian for scientists. At least twenty-five American universities had accorded the Russian language recognition on a par with German and French for the language requirements for Ph.D. degrees in science, and some industrial concerns in this country had organized classes in Russian for their chemists on their premises. The demand for translation of chemical articles from Russian was generally increasing, he said. The American chemist who is now coming in closer contact with the Russian chemical literature may benefit from knowing something about that literature. He wants to know what the actual scope of Russian chemical research is, how fully it is reflected in the Russian chemical literature, how well it is reported, where one can find the pertinent literature and how best to handle it.

The pre-Revolution Russian chemical literature, Mr. Tolpin said, was a record of the work of chemists for the most part secluded in their laboratories, and in the main detached from industrial connections, for the chemical industry of Russia was small before the Revolution. Important data bearing on various industrial developments were, nevertheless, reported in older Russian journals and some of these researches acquired greater value after a lapse of time. It is well known to every scientist that carefully planned and correctly executed experiments will yield data of lasting value.

The Russian technical literature of recent times still bore the earmarks of the turbulent years of revolution, preparedness for war and war itself, he said. It grew rapidly, and at least three hundred scientific and technical journals were in existence in Russia in 1939. This represented only those for which subscription was solicited abroad. From other sources, it was learned that in 1938 up to two hundred regular periodical publications appeared in Russia devoted to chemistry and over three hundred nonperiodical chemical bulletins and reports. In 1940 the proportion of the Russian chemical literature in the world literature on chemistry was estimated to have reached 14.1 percent, as based on an analysis of the contents of *Chemisches Zentralblatt*.

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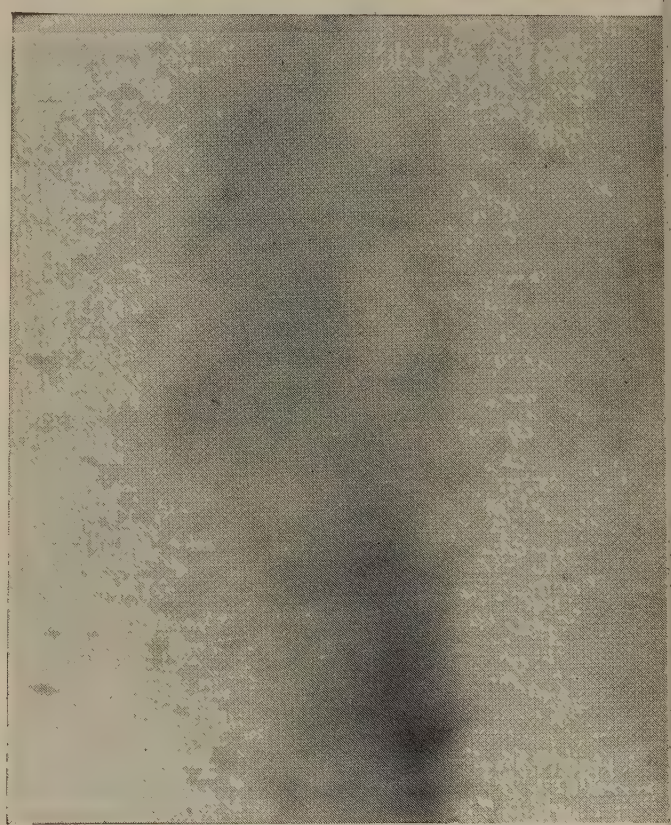

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## Liability of Charity Hospitals

The United States Court of Appeals for the District of Columbia has recently had before it for the first time the question whether a charitable hospital is liable for injury negligently caused by an employee acting in the course of duty. Various incidental questions, as to negligence, contributory negligence and the status of the injured person, in this case a special nurse, as a stranger to the hospital or an employee, were also discussed.

The court's opinion, President and Directors of Georgetown College vs. Hughes, 130 F. 2d 810, which affirms judgment for the plaintiff in the District Court (33 F. Supp. 867) is the most recent of a long line of cases in nearly all jurisdictions full of contrary decisions and similar results attained by different reasonings. Even in the present case the court was equally divided on the scope of its decision although unanimous in affirming the judgment for the plaintiff. And they differed as to the grounds on which the decision should be placed. The trial court found that plaintiff was a stranger to the charity, and so entitled to recover, reserving the question of liability to a beneficiary. Three appellate judges concurred in the affirmance on that basis. They think that by the great weight of authority in the United States charitable corporations are responsible for the negligence of their servants in suits by strangers and hence that the trial judge correctly ruled that the plaintiff was a stranger, and on the questions of negligence and contributory negligence the case was correctly submitted to the jury on that basis. They also thought the case on its facts presented no question as to the liability of charitable corporations for the negligence of their servants in suits by persons other than strangers and that no ruling should be made on that subject. The other three thought the judgment should be affirmed on the broader grounds stated in their opinion, which is an exhaustive one.

The facts were simple. The special nurse, while walking down the right side of a corridor, was struck and knocked down by a door which swung either way from a ward into the corridor, when a student nurse rushed hurriedly through it to get an article needed in a hurry by her fellow nurses working in the ward. Plaintiff was struck after she had passed the door. The court could not say that she was contributorily negligent as a matter of law. That left the main question solely for decision, a new one for the District of Columbia.

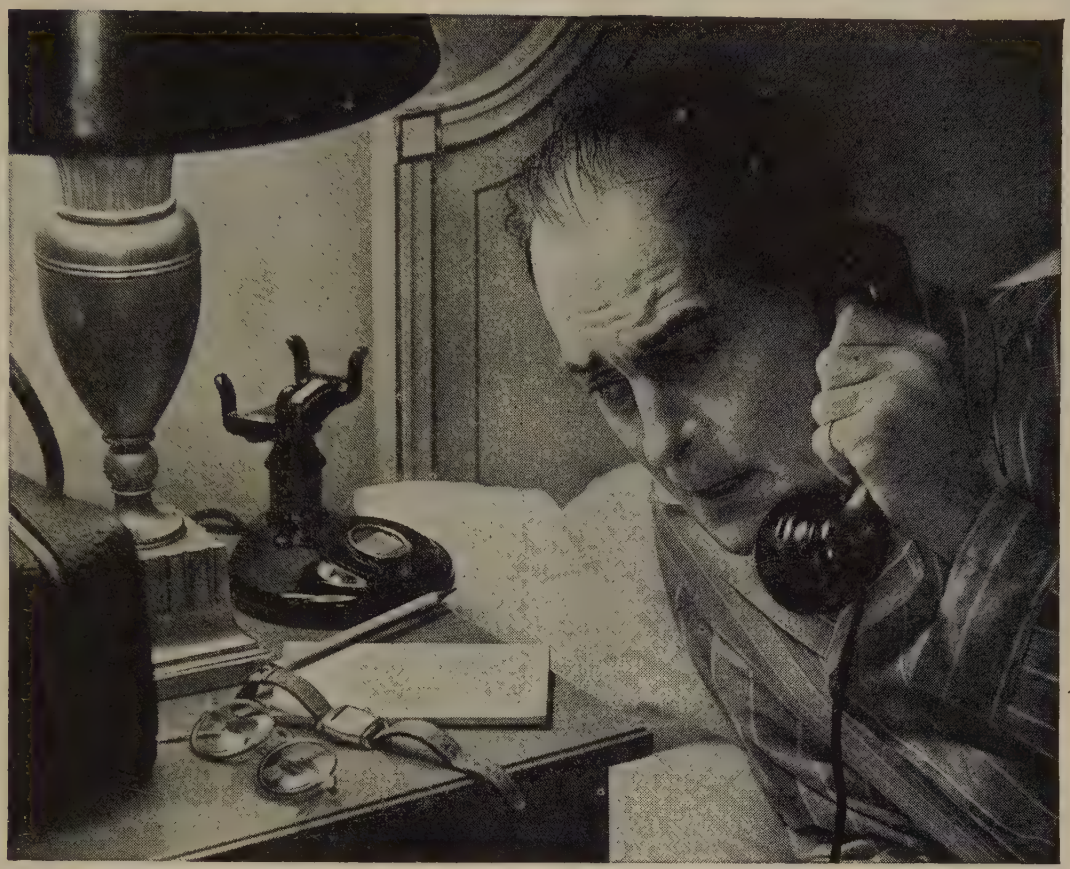
In view of the importance which the trial court's finding that the plaintiff was a stranger to the hospital had assumed on appeal, the appellate court stated a few further facts pertinent to the issue of the hospital's negligence. "She was," the court, "a special nurse. She was called to duty and assigned to the case by the hospital's superintendent of nurses. The patient was a paying one who also paid plaintiff and paid the hospital for her meals. The hospital furnished her working facilities. The arrangement was the usual one for special nurses."

Referring to the conflict in the decided cases, the court commented: "Paradoxes of principle, fictional assumptions of fact and consequence, and confused results characterize judicial disposition of these claims. From full immunity, through varied but inconsistent qualifications to general responsibility is the gamut of decision. The cases are almost riotous with dissent. Reason are even more varied than results. These are earmarks of law in flux. They indicate something wrong at the beginning or that something has become wrong since then. They also show that correction, though in process is incomplete." For discussion see Andren vs. Y.M.C.A. 226 Iowa 374, 284 N.W. 186; Tucka vs. Infirmary Ass'n. 101 Ala. 572, 68 So. 4.

After discussing the general principles governing the question, the historical background of the inquiry, the confused state of decision, policies supporting and those negating immunity, and "the socalled stranger-beneficiary distinction", the court summed up by stating that it was right to allow plaintiff to recover, but not as the trial court held, because she was a stranger to the charity. "We do not undertake to say whether she was stranger or beneficiary. She was trained in the hospital. She worked there many years. When she did, it was at the hospital's summons, and she was, partially at least, under its control. In a sense, she was a beneficiary more than most patients. We think she should recover because she was injured by the negligence of the hospital's employee while the latter was discharging its business in the course of her employment."

Charity, the court added, is generally no defense to liability for wrong doing. "When it has been organized as a trust or corporation emphasis has shifted from liability to immunity. The conditions of law and of fact which created the shift have changed. The rule of immunity is out of step with the general trend of legislative and judicial policy in distributing losses incurred by individuals through the operation of an enterprise among all who benefit by it rather than in leaving them wholly to be borne by those who sustain them. The rule of immunity itself has given way gradually but steadily through widening, though not too well or consistently reasoned, modifications. It is disintegrating. Each modification has the justification that it is a step in result, if not in reason, from the original error toward eventual correction. As more and more steps are taken, correction becomes more complete. The process is nearing the end. This leaves the steps untaken standing out as the more anomalous."

"For reasons already stated we do not believe the survival of charities will turn on whether or not they must answer for their wrongs to persons they are formed to help. There may be some added expense of operation. It may be no more than the cost of litigating these claims over and over, for the issue will not down. Insurance must be carried to guard against liability to strangers. Adding beneficiaries cannot greatly increase the risk or the premium. This slight additional expense cannot have the consequences so frequently feared in judicial circles, but so little realized in experience. To offset the expense will be the gains of eliminating another area of what has been called 'protected negligence' and the anomaly that the constitutional doer of good asks exemption from the responsibility for its wrong, though all others must pay. The incorporated charity should respond as do private individuals, business corporations and others, when it does good in the wrong way."



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*than any other cigarette*

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

### Charitable Hospital Not Liable to Paying Patient for Neglect of its Nurses Acting Under Physician's Order

In a three to two decision the New York Appellate Division, Third Department holds, Lee vs. Glens Falls Hospital, 42 N. Y. S. 2d 169 that a charitable hospital was not liable for injuries sustained by a paying patient who, after an operation, fell out of a bed provided with side boards in which she had been placed on the order or with the assent of her physician, on the theory that the hospital was liable for the negligence of its nurses assigned to care for the patient, in the relation between the hospital and the nurses of master and servant. Such nurses, the court holds, were not servants of the hospital, but were employed merely to carry out the orders of the operating physician.

The court followed the leading case of Schloendorff vs. Society of New York Hospital, 211 N. Y. 125, 105 N.E. 92, and other cases stating the rule in New York as follows: "When nurses or physicians are treating a patient they are not acting as servants of the hospital. It is true that the superintendent, assistant superintendent, orderlies and members of the administrative staff are servants of the hospital; but nurses are employed to carry out the orders of the physician, to whose orders they are subject. The hospital undertakes to procure for the patient the services of a competent nurse; it does not through the agency of the nurses render these servics itself."

In this case the hospital provided competent nurses and followed the instructions of the patient's physician, who told the night supervisor to watch the patient closely but did not order special nurses assigned to the case, although the patient occupied the solarium alone, into which she had been moved on becoming irrational and disturbing the other patients in the ward in which she was originally placed. The opinion was delivered by Justice Crepser.

A concurring opinion by Justice Hefferman, in which Justices Crepser and Schenck joined said: "It may well be that charitable corporations should not be immune from liability for the torts of its agents. The Court of Appeals has taken a long step in that direction in Sheehan v. North Country Community Hospital, 273 N. Y. 163, 7 N. E. 2d 28, 109 A.L.N. 1197. Notwithstanding the court's pronouncement in that case, it is still the law in this state that a charitable corporation will be held liable for the torts of its mere servants or agents but not for those whom the court considers to be independent contractors, such as physicians, surgeons, nurses, professors and the like, if it has exercised reasonable care in their selection and retention."

A dissenting opinion by Justice Bliss in which Presiding Justice Hill concurred, summed up its argument thus: "There are two answers to defendant's claim that it is not responsible for the acts of its nurse. First, watching this patient and preventing her harming herself was not a medical function. It was a duty which any hospital attendant, nurse or not, could have performed. Such duty is daily performed in our State. Secondly now that the charitable immunity doctrine has been abolished there is no longer sound reason why a hospital should not be responsible for the acts of its employees, the same as is practically every other employer.*** A nurse, employed by the hospital and completely under its direction and control, is in no sense an independent contractor.

"The same rule now applies to all hospitals, i.e., the patient is accepted under an implied agreement that he will receive such care and attention as the hospital knows or should know his condition to require. There is no longer any good reason why a hospital, charitable, public, or otherwise, should not be responsible to paying patients for the neglect of all of its employees—medical as well as administrative. The patient has no choice in their selection. But we need not go that far in this case. The neglect of the supervisor alone requires a reversal and a new trial."

John Simpson

## Postgraduate Training in Psychiatry

The New York State Department of Mental Hygiene has announced the establishment of a comprehensive program for the training of physicians in psychiatry and neurology to meet the unprecedented need for increased medical personnel for hospital and outpatient treatment of persons suffering from mental and nervous diseases. This need, according to Commissioner Frederick MacCurdy, already serious before the war, increased tremendously during wartime and had become urgent with the mounting incidence of mental and nervous disorders due to the war and its aftermath. In normal times there were only some thirty-five hundred trained psychiatrists in the United States, he said, and as an indication of the great dearth of such specialists it has been conservatively estimated that at least three times as many could be used to advantage at the present time.

The Department of Mental Hygiene has completed arrangements for the training of a hundred physicians through courses set up at the New York State Psychiatric Institute and Hospital in New York City, in conjunction with the College of Physicians and Surgeons, Columbia University, and at the Syracuse Psychopathic Hospital, in conjunction with Syracuse University Medical School. These courses, which started in New York on April 5th and will start on May 3rd in Syracuse, will continue weekly for forty-eight weeks. They will consist of lectures, clinical conferences and laboratory work, and will meet the primary requirements of the American Board of Psychiatry and Neurology. Formal instruction will be supplemented by supervised clinical work at the resident's institution. Altogether some fifty instructors, most of whom are of professional rank in the two medical schools, have been engaged for these courses. They include some of the outstanding authorities in psychiatry and neurology and allied professions. Although designed primarily for physicians who served in the armed forces, the courses will be open also to other junior members of the institutional staffs.

Commissioner MacCurdy also announced, as part of the program, the provision of special courses for the training of clinical directors for mental hospitals. These physicians are in immediate charge of the medical care of all patients in the institution. The courses began at the Psychiatric Institute in New York, in April.

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VOL. 159, No. 6 JUNE 1946 WHOLE No. 2761

# TREATMENT OF PELVIC CONDITIONS IN WOMEN

## *Use of a New Device in Physical Therapy*

*(A Preliminary Report)*

A. F. LANDEKER, M.D.

New York, N. Y.

More than twenty-five years ago I published in various medical journals several articles describing the value of neon gas, especially for use in the cavities of the human body. At that time I found that certain painful conditions of the pelvic wall, called by others, and later by myself, Landeker's pelvic neuralgia, and also inflammatory conditions of the uterus and the adnexa, could be relieved and highly improved by the use of neon gas.

In other articles I pointed out that neon gas exerted a vital influence upon the activity of internal glands, especially the ovaries and the thyroid. My own findings were later confirmed by the investigations of Dr. Bardeleben and his co-workers, and were backed up by certain tests made by Dr. Schilling, which showed that in cases which responded favorably to this treatment an increase in lymphocytes, eosinophiles and monocytes as a victorious stage in the fight against infection and inflammation could be achieved.

A number of Swiss authors used the same or similar methods in giving the patients the benefit of external and internal treatment with neon rays, and reported favorable results. Besides this, I was privileged to do some experimental work on animals in the Charity Hospital of Berlin during 1924-25. In artificially fractured skulls of animals I found through a series of experiments that the healing processes of the bone and the covering soft tissue were accelerated by the use of neon rays, for about one-half hour daily. In contrast, the same wounds inflicted upon other animals of the same species, and which were not treated with neon rays, did not show the quick healing powers which were influenced in the first group. At that time I came to the conclusion that neon rays have a typical and selective power of tissue regeneration in wounds and in other injuries.

This was one of the leading ideas I followed through when I worked with an absolutely different machine; a multi-high frequency machine connected with certain gas filled tubes, filled mainly with neon gas, some filled with neon gas and minerals such as silicates.

In the Health-Therapy Research Institute Branch of the National Charitable Foundation, as physician-in-chief, I had the opportunity to treat cases of a similar nature to those I previously mentioned—inflammation of the parametrium and the adnexa, pelvic neuralgia with spasms of the urinary bladder, hyperfunction and dysfunction of the ovaries with retarded and atypical menstrual periods, and last, but not least, dysmenorrhea.

### Case Histories

CASE I.—There were some surprising results from only a few treatments in the case of a woman doctor, Dr. F.K., aged thirty-four. She had suffered for about eight years from inflammation of the adnexa and the parametrium, with attachments of the intestines to the female organs. About one and one-half years prior to the treatment given to her in the Institute, she underwent an abdominal operation which resulted in the removal of one of the fallopian tubes and the removal of the numerous attachments to the adnexa, the uterus, etc. While she had suffered most excruciating pain and a scanty and always delayed menstrual period, which could only be relieved by injections of morphine and atropine, these pains were not only still present after the operation, which led to an ileus about ten days later, and which could be remedied by conservative treatments of pitressin injections, but the pains were intensified after the operation. The pain at times became so severe and intolerable that the patient was ready to commit suicide.

She came to our offices about two days before she expected her menstrual period which, as previously mentioned, was never on time so that she could not give a definite date. After two vaginal treatments of five and seven minutes each, she had the first menstrual period in years on time and practically without any pains and with a more normal flow than previously.

CASE II.—Miss H.J., aged thirty-eight. The patient complained of bladder trouble for five years with urgency to urinate very often and a burning sensation all the time. She was treated not only in

Dutch Guiana, her home, but several doctors and urologists had examined her and a prominent urologist in the United States recommended hospitalization for observation for five days with the probable necessity for an operation.

Her blood count did not show any abnormal figures—sedimentation rate of 10 mm. per hour. The blood chemistry was practically normal. The urine showed traces of albumen, 30-50 leucocytes per high power field, a moderate amount of mucus, and considerable clumping of pus.

Vaginal examination revealed that the uterus was slightly enlarged, the ovaries were normal, and the right paramentrium shortened. In touching the lateral pelvic walls on certain painful spots the pain radiated to both hips, and on touching the painful spots on both sides of the urethra the urgency to urinate and the burning sensation could be elicited at will and at random by the palpating finger. There was no sensation and no painful spots existed in the region of the rectum. This examination proved clearly to me that this was a case of pelvic neuralgia such as I described for the first time in 1911-12, with particular involvement of the urethra and the bladder. In confirmation of my own findings, similar symptoms have been described by the well known gynecologist, Dr. Walthard of Zurich and by the urologist, Dr. W. Israel of London.

It was not a surprise to me, but it was to the patient and to her friends, that after the first few treatments all the symptoms disappeared. Purposely I did not give her any internal medication—only the vaginal application of the neon rays toward the urethra. I was convinced that due to spasm some rest urine would always remain in the bladder which, in all likelihood had become secondarily infected.

After ten treatments the urinalysis showed a faint trace of albumen, 10-15 leucocytes per high power field, a moderate amount of mucus, and no clumping of pus.

CASE III.—Miss J.S., aged thirty-three. The patient had her first menstrual period at the age of thirteen, and it was always of five days' duration, heavy the first day, and painful. It was also extremely irregular, never coming before the fortieth day following the beginning of the previous period. Surprisingly enough, after only two vaginal treatments, her menstrual period occurred in thirty days and without pain.

CASE IV.—Mrs. M.F., aged twenty-nine. The patient complained of severe pains in the lower abdomen on both sides with a feeling of pressure downwards, exceedingly painful bowel movements and a painful urgency to urinate frequently during the day. Vaginal examination showed that there was very painful induration of the right and left parametrium in the rectovaginal space of about two inches wide and four inches long. Internal examination was extremely painful. Walking was barely possible and sitting only with pain. Because of her condition sleep was poor. After the first vaginal treatment, of about five minutes' duration for each side, the patient could walk much better and sit with greater ease. This was on June 12, 1944. On June 13th, the induration of the right side had considerably decreased and the left side showed even greater improvement. That night the patient slept throughout the night without pain and did not require sedatives or sleeping tablets, whereas she previously had not slept for practically two weeks. From June 14th on treatments were continued through the rectum. On June 15th the induration of the right side showed continued reduction and the left side was practically clear. The patient was sleeping soundly and was able to sit in an upright position. On June 19th, after two more treatments, she had no pain whatsoever and was able to return to work. Thus, after six treatments the painful masses had practically disappeared. After two more treatments, there was no recurrence of pain and the masses had completely disappeared. On July 6th, the patient came for a checkup; subjectively and objectively, she was completely cured. . .

## Conclusions

1. The author describes several pelvic conditions in women including inflammations, neuralgia of the pelvic walls and the urinary bladder, and cases of ovarian dysfunction which responded favorably to a new device of physical medicine, by using a specific applicator tube mostly containing helium and neon or helium, neon and proactenium.

2. The signficance of these treatments can be easily demonstrated by blood counts and biochemical tests which show an increase in hemoglobin and sometimes, according to a favorable reaction, an increase of lymphocytes, and in several cases, improvement of the calcium content of the blood and of the calcium-phosphorus relationship.

3. It seems likely that the electropotential of the cells can be changed by the bombardment of the tissues involved with ions of certain minerals which are constantly undergoing a bombardment by certain gases, within the applicator tube (cataphoresis?). Similarly, the addition of certain substances, such as eosine and others, seems to sensitize the skin and the mucous membrances, for the effect of certain rays.

4. These treatments, which are still further clinically and biochemically evaluated, merit their publication due to the fact that the author has described similar results with neon gases alone and with a different machine about twenty-five years ago.

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5 EAST FIFTY-THIRD STREET

# THE ART OF INCREASING AND DIMINISHING THE BODILY WEIGHT AT WILL*

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The physician is frequently confronted with the problem of modifying the bodily weight in one or the other direction. Many chronic maladies are accompanied by considerable loss of weight, and in their enfeebled state the patients are greatly hampered in their battle against disease. If, however, we succeed in putting them into a better general condition, they are then enabled vigorously to combat their troubles. To obtain an increase in weight is therefore here of primary importance.

An excessive bodily weight also leads to disagreeable conditions, occasionally even to disease. Accumulations of fat around the heart and intestines impede the action of these organs. The ponderous body is sometimes too heavy for the legs; laziness results, leading occasionally to fatty degeneration of important muscles, including the heart. In all these cases a reduction of bodily weight must be sought.

It does not appear superfluous, therefore, to discuss the question how to change the bodily weight in one or the other direction.

I: The principles governing these problems are intimately connected with the physiology of metabolism and must first be briefly considered.

*Revenues and expenditures of the body.*—In the life of every human being there is a constant exchange of revenues and expenditures. The revenues of the body consist, as we all know, of food and air, the expenditures of the generation of bodily heat necessary for life and of the work performed (heart action, respiration, glandular activity, muscular work in general).

The value of food is measured by its caloric energy. Heat may be transformed into power and the latter into the former. The mechanical equivalent of one calorie = 425.5 kgm. If the work performed (expressed in kilogrammeters) is known it can be calculated according to the above formula in calories, i. e., we can tell exactly how much heat is consumed in the work accomplished. The human organism, however, is not able to convert the entire number of heat units into work. According to Von Noorden (1) the organism requires for a certain amount of work about four times the amount of potential energy; in other words, seventy-five percent of the calories, changed into power, are given off in the form of heat which radiates from the body and is thus lost.

A person performing about 4,000 kgm. work uses, therefore, $\frac{4{,}000}{425.5} \times 4 = 37.6$ calories. The amount of food for the adult per day has been calculated at about 2,600 calories.

*Body equilibrium.*—If the amount of food taken is just sufficient for all demands of the body we have a balancing of bodily weight or bodily equilibrium, i. e., the organism neither loses nor gains in weight.

*What happens when more or less food is taken?*—Formerly the view prevailed that the more food is supplied to the animal organism the more material it burns up. As a proof of this theory, the fact was adduced that a short time after eating the consumption of oxygen and the elimination of carbonic acid gas were found to be increased. Speck (2) proved, however, that the increased consumption of oxygen was to be ascribed to the increased activity of the digestive glands, and therefore the theory of augmented combustion of increased nutritive material had to be abandoned. There are numerous proofs that the organism does not burn up food introduced in excess, but rather utilizes it and converts it into fat.

On the other hand, the organism consumes just as much material even when no food is taken, using up its own substance (fat and muscles). In acute inanition the adult usually expends about two thousand one hundred calories, in protracted inanition somewhat less, about one thousand seven hundred to one thousand nine hundred calories per day. The loss of nitrogen of a healthy fasting man is about ten to eleven grams daily.

*Work and rest*—With increased muscular work, the expenditure is much larger, as is evident from the above. Lavoisier was the first to recognize this important law. Zuntz (3) has distinguished himself in this field by many important investigations. This celebrated savant has determined the following values for the calories expended in the occupations of ordinary life:

"Walking on a level road requires between 0.5 and 0.6 calories per kgm. and per one thousand meters, according to the degree of skill in walking of the individual. A man weighing eighty kgm., and traveling seventy-five meters per minute would therefore use for every one thousand m. walking about 80 x 0.55 = 44 calories, or 3.3 calories every minute, this being about two and one-half times as much as during absolute rest. If there is a ten

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percent grade in the road the total amount per 1,000 m. is 44 + 60 = 104 calories, or $\frac{104 \times 75}{1,000} = 7.8$ calories per minute, 468 calories per hour; this is about the limit of what a strong man is able to perform for any length of time.

"On accelerating the gait the consumption increases about 0.0024 calories per 1,000 m. for every meter of increased rapidity between sixty to eighty m. per minute, above one hundred m. in increased ratio.

"In wheeling, according to Leo Zuntz, the hourly increase of consumption over that of absolute rest for a man weighing seventy kgm. is as follows: Going nine km. per hour, 183 calories, going fifteen km. per hour, 313 calories, going twenty-two km. per hour, 571 calories, going nine km. per hour, three percent grade, 316 calories, and going fifteen km. per hour, and headwind of a velocity of ten m. per second, 601 calories.

If, for instance, an adult should traverse four English miles (6,436 m.) he would consume

$$\frac{6,435 \times 44}{1,000} = 283 \text{ calories.}$$

With increased work, under the same diet, a person in a state of physiological equilibrium must lose in weight; the increased consumption of calories is supplied from the body tissue. On the other hand, under the same conditions (i. e., ingestion of the same amount of food), but with marked diminution of the usual amount of work (rest in bed), an increase of bodily weight must follow.

Expressed in other words, this means that the body normally does not lose any of the food introduced (after deduction of the usual not utilized residue, which almost always represents a constant percentage), and converts all ingested material into energy (heat or power) or into tissue. In the same manner, every effort of the organism (heat, energy) must be compensated for by calorifacient material, no matter whether it be furnished by the food or by the body itself (in case of abstinence from food).

After these digressions into the realm of physiology let us return to our subject:

II: An increase of bodily weight is often desirable in conditions of emaciation and leanness. Leanness is met with, although rarely, in persons who are perfectly healthy. These are usually individuals of a vivacious temperament doing a great deal of work and eating only moderately. Such persons are apt to remain lean, and may reach an advanced old age without gaining or losing.

It is quite different with those frequently occurring cases of emaciation. The latter accompanies chronic diseases of various nature, and usually progresses steadily. These patients lead a miserable life, and are usually unable to resist any intercurrent disease, and though they may live some years, hardly ever reach old age. In the majority of instances they fade away much earlier.

In emaciation, as is evident, it is imperative to counteract it—this, in fact, constituting the main object of treatment. But also the leanness of the healthy, if it is of a high degree, ought to be combated. For these persons are at a great disadvantage as compared with normal people. They have no reserve fat on which they can fall back in time of need. This may be fraught with fatal consequence in supervening acute febrile diseases.

Can leanness and emaciation be successfully combated? This question must be answered in the affirmative. In nearly ninety to ninety-five percent of all the cases of leanness and emaciation (cancer, of course, excepted), in which I have made an extended trial to raise the bodily weight, I have been successful.

*Increasing the body weight.*—If we desire to obtain a rise in bodily weight, we must introduce into the body larger amounts of food and especially nutriments of a high caloric value. Practically we proceed as follows: We inquire minutely, how the patient has recently lived; what kind of food and how much he has taken with every meal. If we find that his diet was one-sided, we must immediately change it; for a diet list excluding many important foodstuffs is always deleterious in the long run. We will therefore permit as great a variety of food as is compatible with the condition of the patient.

We then inquire as to the quantity of food ingested. Should the latter be insufficient it must be our aim to prescribe the food in somewhat larger quantities. If the normal amount is taken, we must make the beverages taken with the meals more nutritious. Coffee and tea, for instance, are given diluted one-half with milk and a small addition of cream as well as sugar, or instead of coffee a glass of milk is ordered.

In suitable cases two or three smaller meals, consisting of milk and buttered bread, may be given with advantage. It is advisable to prescribe the daily amount of butter that should be taken: I usually order a quarter of a pound per day. Butter is a fat easily digested, and on account of its high caloric value especially suitable.

The success of treatment is practically assured, if it is possible to get the individual to take larger amounts of food. We often have to deal with persons whose appetite is very poor. Here, beside the usual remedies we have to make use of the following dietetic means: Bread and vegetables as well as milk and eggs can usually be taken with relish, even if a marked antipathy for meat exists. The addition of olives, lettuce, horseradish, etc., sometimes aids in overcoming this. A glass of cold water stimulates the appetite while eating and induces a larger consumption of food. It is self-understood that we make use of all these suggestions, which beside their dietetic importance contribute to the patient's enjoyment of life, provided no serious contraindications are present.

Outdoor life and moderate exercise (walking, light gymnastics, bowling, etc.) are of great value. The latter stimulates the appetite, and by satisfying it the increased loss of heat through muscular work will not only be compensated, but probably an excess of food will be ingested without trouble. Exercise, furthermore, serves the purpose of stimulating muscular development and of strengthening the body.

By means of a suitable combination of food and exercise, we effect not only an increased formation of adipose but also of muscular tissue and a gain in strength.

III: The bodily weight should be reduced as soon as there is a surplus of fat, which is displeasing to the eye or mars the harmony of the body.

There are two ways of diminishing the bodily weight: first, diminution of the amount of food taken; secondly, increase of the amount of work performed, or a combination of both.

Karell, (5), and after him S. Weir Mitchell (6), have tried to treat obesity by a restricted milk diet. Mitchell says: "Karell has pointed out that on creamless milk diet fat people lose flesh. This can be done rapidly and with safety by the following means: The person whose weight we decide to lesson is placed on skimmed milk alone, with the usual precautions, or at once we give skimmed milk with the usual food, and in a week put aside all other diet save milk and all other fluids. When we find what quantity of milk will sustain the weight, we diminish the amount by degrees, until the patient is losing a half pound of weight each day, or less or more, as seems to be well borne. Meanwhile, during the first week or two, rest in bed is enjoined, and later, for a varying period, rest in bed or on a lounge is insisted upon, while at the same time massage is used once or twice a day, and later in the case Swedish movement. At the same time the pulse and weight are observed with care, so that if there be too rapid loss or any sign of feebleness the diet may be increased. In many such cases I allowed daily a moderate amount of beef or chicken or oyster soup—more as a relief to the unpleasantness of a milk diet than for any other reason."

Banting's cure also is based upon a reduction of the amount of calories introduced with the food (nearly exclusively meat diet).

Oertel (7) was the first to call attention to the value of muscular exercise in the treatment of obesity. By a gradual slow increase of work it was found possible to accustom even a weakened heart to greater exertion. Oertel, as is known, recommended for this purpose the climbing of light grades.

Zuntz (8) is of the same opinion, and advises in treating obesity to utilize muscular activity. In the treatment of obesity we must endeavor to free the body from superfluous fat, without impairing the amount of albuminoid substance (muscles). This can be most easily accomplished if with a moderate but sufficient diet the usual amount of work is slowly increased without augmenting the amount of food consumption. It is more difficult if at the same time that work is increased the amount of food is considerably decreased.

Practically we should proceed as follows: We must determine exactly under what dietary (this must be estimated quantitatively in an approximate manner) an individual will remain in a state of bodily equilibrium. If the person has not gained lately, we may take the amount of food that he has been in the habit of consuming as a standard. If, however, he has been gaining on this quantity, we ought to diminish it, allowing, for instance, only one slice of bread instead of two or three, leaving off intermediate meals, etc. The weight of the patient should be controlled every two or three days, or weekly, by the scales. As soon as the amount of food necessary to keep the body in equilibrium has been determined, we must begin slowly to increase his muscular work. He should walk one-half to three-quarters of an hour in addition to his usual work, or ride a wheel, or row or fence or play billiards or golf, or hunt or fish. Gradually the time for exercise may be lengthened or the degree of work intensified; as, for instance, by traversing the same distance in shorter time, when walking, cycling, or rowing. This materially increases the consumption of calories. If we proceed slowly and carefully, we can soon obtain considerable work even from individuals that are weak.

In increasing the work never allow the patient to become exhausted. The accelerated heart action and respiration due to the exertion must return to normal ten minutes after beginning the rest. If this is not the case, the work must be reduced.

IV: We have seen that by means of suitable diet and muscular work the body weight may be increased or reduced at will. It is also gratifying to note that the increase or reduction of the body substance, if it is advantageous for the organism, will be distributed in a harmonious way, so as not to offend our aesthetic feelings. In a general way, we will be right if we maintain that beauty and health with regard to bodily shape go hand in hand. When an increase in body weight is accompanied by increased beauty it will be found to be of hygienic value. In a similar manner, a decrease of weight bringing out a more harmonious appearance, is certainly also advantageous to health.

The axiom that fat and muscular tissue are evenly distributed when an increase takes place is, however, subject to an exception in the interest of the organism. The disposition of fat is somewhat greater in places where the subjacent muscles are not called into frequent play, whereas the muscles increase to the largest extent in such places where they are called frequently into action. In reducing weight the opposite holds good. The greatest loss in fat occurs in places where the muscles are most exercised and the greatest loss in muscular tissue where muscular activity is small. The advantage of this arrangement is that fat is deposited in such places where it can cause the least harm and muscles where they are of most value. In the disintegration of tissue of course the contrary obtains. Thus the organism watches that everything shall turn out to the best advantage, i. e., it makes use of everything (work and food) for its own benefit.

It is a grateful task for the physician to intervene where in consequence of a false mode of life (too much or too little food, too much or too little work) harm may result to the organism. At the same time we must feel great satisfaction in the knowledge that through simple means (diet and muscular work) we are able to effect an improvement or a cure of the harmful conditions present.

(*Continued on page* 356)

# THE CHEMICAL BREW OF THE BRAIN

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The brain is an organ made up of many parts, each different in structure and function, yet harmoniously integrated into a unit of amazing versatility. In its last analysis, the brain is a chemical compound which depends upon chemical reactions for its function. Among the many chemical compounds that enter into brain function may be mentioned calcium-magnesium and sodium-potassium ratios, hydrogen ion concentration and oxidation. Too great a shift from equilibrium in any one of these chemical systems results in manifestations of brain function disturbance.

Leo Alexander and Abraham Myerson carried out a series of chemical estimations of brain tissues, employing the spectroscope in their studies. The following facts were brought to light:

1. The normal cerebral gray matter of the human adult is richer than the white matter in iron, calcium, magnesium and sodium, while the normal white matter is richer in phosphorus.
2. The brain of the newborn infant is richer in most elements, but poorer in iron than that of adults.
3. In edema (swelling) of the brain, there is an increase in sodium and calcium.
4. In disturbed brain function there is a decrease in minerals.

These studies have helped brain students to make an attempt to understand brain function in terms of chemical reactions. However, they do not tell the complete story. Helen Hopkins, who was much interested in the chemical substance known as cholesterol, found that in cases of disturbed brain function, there was a decrease in this substance. Other investigators have found that chemical examination of the brain in cases of mental disturbance has indicated deficiencies in neutral sulphur and catalytic iron.

The efficiently functioning brain also requires proper amounts of water and oxygen. Disturbances in water balance in the brain result in altered function. Too little or too much water is disastrous, not only resulting in decreased mental efficiency, but, when this balance is profoundly upset, resulting in more serious symptoms such as delirium, stupor and coma. Water holds the essential chemicals in solution and in the required amount of concentration and a shift in either direction may result in distorted thinking.

The water balance in the brain is also intimately bound up with the acid-base equilibrium. The effects on the brain of too much acidity or too much alkalinity is almost immediate. The epileptic brain is an alkaline brain, and a brain given to convulsions and confusion in thought. On the other hand, the diabetic brain is an acid brain with a similar decrease in the processes of mentation. If the acid ions are too concentrated the functions of the brain are brought to a standstill with resultant stupor and later coma, or complete suspension of all conscious brain activity.

Oxygen is a most important element in the brain as far as intelligence is concerned. This fact came to light in a most interesting manner. In 1862, the meteorologist, Glaisher, and the balloonist, Coxwell, made a famous ascent. In forty-eight minutes they reached an altitude of 28,000 feet, when Glaisher found that he could no longer read his thermometer or his watch. Coxwell noticed his companion's condition and brought his balloon down. Glaisher then recovered his mental faculties.

A similar thing happened to Tissander who, when he ascended to a height of 26,000 feet, was overcome by stupor. He found that "body and mind became feebler, little by little, gradually and insensibly". These were the first studies on the effects of decreased oxygen on the brain and intelligence. They were rather crude beginnings, but they served as a starting point.

A more scientific study of the effects of oxygen deprivation on the brain was made by Haldane and Kellas. They entered a steel chamber and the air was pumped out until the pressure reached 320 millimeters of mercury which is equivalent to 24,500 feet. At this point Haldane's mental reactions became so impaired that he could no longer write or make observations. His reply to all questions was "keep it at 320".

After an hour and a quarter their associates outside the chamber became worried and put up messages to the window, but Kellas and Haldane gave the same answer, "keep it at 320". These were obviously the reactions of persons with impaired intelligence, artificially impaired by the lack of oxygen.

Finally, Kellas raised the pressure to 350 which is equivalent to 21,500 feet. This meant that more oxygen was available. And it also meant that some of their mental capacities were returning, but evidently not all, for Haldane took up a mirror to examine his lips, looking at the back instead of the front of the mirror.

Then the pressure was raised to 450 (14,500 feet) and Haldane's mind cleared as more oxygen became available. He had been entirely unaware of the passage of time and could not recall anything that had occurred during this interval.

John Barcroft also evaluated the effects of oxygen upon intelligence by spending six days in a glass chamber in which the partial pressure of oxygen varied, corresponding to altitudes from 10,000 to 18,000 feet. There were minor changes in the performance of simple mental tests of memory, multiplication and discrimination. He could not make the necessary discrimination in gas analysis, yet could carry out clear commands if they were given for each moment. There was distortion of judgment and value, and matters of vital importance seemed trivial.

Another man who made tests on the effects of decreased oxygen availability was Lawson who gave five subjects tests for speed of sorting, speed of tapping, accuracy in aiming, substitutions, analogies, distorted sentences and the same-opposite test. He noticed that the average alterations in behavior were not significant until the percentage of oxygen reached fifty percent of normal, but at that point the changes were rapid and pronounced. All subjects noticed difficulty in reading at the lower percentages, due chiefly to impaired comprehension and concentration as well as to physiological disturbances such as headaches.

Similarly, Dr. Tanaka by experimentation found that the deficiency in mental and physical work was due chiefly to the lack of oxygen, that there were great individual differences, that the effect was more marked in the mental than the physical work, that there was a critical point where a sudden change occurred at about 428 millimeters of mercury, or at 15,000 feet, and that the quality of the work was most affected, i.e., greater fluctuations occurred in the accuracy of performance than in speed.

The most recent work on the chemistry of oxygen and intelligence was done by S. H. Kraines who subjected thirty persons to tests involving decreased oxygen availability and mental activity. His results are summarized thus:

There is a definite drop in intelligence (as measured by the Army alpha test) while breathing ten percent oxygen (corresponding to an altitude of 20,000 feet). The decrease in score varies greatly with the subject, varying from a minus one to a minus .54. Only one subject increased his score under diminished oxygen intake.

The first part of the test showed no loss in score under oxygen lack in spite of the increased number of errors. This is attributed to the respiratory and circulatory adjustments which compensated for the lack of oxygen.

The subjects with the highest scores showed the greatest drop in score under oxygen lack. The increase in number of errors, in general, paralleled the decrease in score. Subjective evaluations of one's own abilities while under low oxygen tensions are wholly inadequate. Many subjects who thought there was little effect, did poorly, and vice versa.

Sir Joseph Barcroft who performed some of the earlier experiments in evaluating the effects of decreased oxygen on mental activity, also determined to find out what effects freezing, which is essentially a chemical process, also has on the brain. He undressed and entered an ice-cold room and lay down on the floor to await results. He was deliberately freezing himself to find out just what the mind does under such conditions. An assistant stood by and when he saw that Sir Joseph was losing consciousness, entered with warm blankets and hot drinks to revive him.

How does the brain react when it is subjected to very low temperatures? Sir Joseph Barcroft describes what happened to him as follows: "What comes back when I recall the attempt to reduce my body temperature? Certain effects on the heart were interesting but in no way arresting, but what comes back is the effect on my mind.. In each of the two experiments which I performed there was a moment when my whole mental outlook was altered. As I lay naked in the cold room I had been shivering and my limbs had been flexed in an effort to huddle up, and I had been very conscious of the cold. Then a moment came when I stretched out my legs; the sense of coldness passed away and it was succeeded by a beautiful feeling of warmth; the word 'bask' most fitly describes my condition. I was basking in the cold. What had taken place, I suppose, was that my nervous system had given up the fight, that the vasoconstriction had passed from my skin, and that the blood returning thither gave the sensation of warmth which one experiences when one goes out of a cold storage room into the ordinary air.

"Up to the point at which shivering ceases, nature fought the situation; my instinct was to be up and about, and effort of will was necessary to remain the subject of the experiment; after that point I gladly acquiesced, initiative was gone; doubtless in another second a more advanced stage would follow in which inertia would lapse into unconsciousness. For I suppose that, had the experiment not ended at that point my temperature would have fallen rapidly and I was on the verge of the condition of travelers when they go to sleep in extreme cold never to awaken again.

"And I was conscious of other reversions of my mental state; not only was there a physical extension of the limbs, but with it came a change in the general mental attitude. The natural apprehension that some person alien to the experiment should enter the room and find me quite unclad disappeared—just as flexion was changed to extension, so the natural modesty was changed to—well, I don't know what. Clearly, one should be very cautious about taking these liberties with the mind, and that is the point: the higher parts of the central nervous system were the first to suffer."

What happens to the brain when the opposite occurs? What happens when there is an increase in temperature? Harvey Sutton performed a remarkable experiment in this direction, and this is what he found:

"The marked sensation of heat felt on entering the room (98°F.) soon passed off on resting quietly and was replaced on the occurrence of free sweating by a relaxing and not unpleasant sensation of warmth. Dilatation of the vessels and relaxation of muscular tone was marked, and still more marked was the sensation of sleepiness, which often becomes quite overpowering. This condition, however, existed during the stage of compensation when the internal temperature was stationary or only beginning to rise gradually. The organism seems to reduce its energy to a minimum and so muscular and mental effort are practically abolished. This state lasted during these experiments for half an hour or so, for as soon as the rise of temperature became at all definite this was associated with quite another set of sensations. Sleepiness disappeared and the complete muscular idleness passed off and was replaced by a marked and increasing irritability.

The change from drowsiness to wakefulness and irritability was comparatively abrupt, and occurred quite consistently at about 99.5°F. Once the rise of rectal temperature was fairly marked to 101° to 102° F. The continuance of any employment such as reading a book or sitting in one position became intensely tiresome. For example, the attempt to learn by heart a short vocabulary of German words proved a complete failure. To remain at rest required a marked effort of will and the only approach to comfort was obtained by slowly lounging about so as continuously to change one's position. Later on the rectal temperature rose to over 103°F. and irritation, however slight, became not merely tiresome, but actually annoying and trying to one's temper. This irritability—a preliminary sign of early exhaustion of the central nervous system—is thus closely associated with a rise in body temperature. Immediate relief was felt on reaching the cool external temperature, and this was accompanied by a rapid fall in internal temperature two to three degrees F. in ten to fifteen minutes."

The amount of carbon dioxide in the blood also exerts appreciable effects on the brain. A simple experiment is the following: Pant for about three minutes. This increases the amount of carbon dioxide in the blood, and with this increase a peculiar thing happens. You become "fuzzy in the head". The brain cannot function normally when it has too much carbon dioxide to contend with.

Margaria, Haldane and Barcroft, in order to test the effects of increased carbon dioxide on mental activity, spent about twenty minutes in an atmosphere of 7.2 percent carbon dioxide, which is rather high. This is what happened. Margaria and Haldane suffered from symptoms of mental fatigue. He was unable to concentrate or even listen to conversation without an effort. He was unable to read a newspaper and understand what he was reading. He was so fatigued that he felt like going to bed for the weekend. His mind was almost a total blank.

Another well-defined chemical action within the brain takes place when a blood vessel ruptures. Lucian D. Clark had been suffering from a blood pressure of 230, much above the normal. He knew that sooner or later a blood vessel would give way under the pressure. And one did. This is what happened to his thinking apparatus when this severe alteration took place.

"On November 2, 1934, while returning from a professional call I stopped for a traffic light. As I reached to shift gears, I saw two hands and two shift gear levers. I was confused for a second, but was brought to my senses immediately by a brilliant play of colors in my right eye. The colors fluttered rapidly and were not synchronous with the heart pulse. They involved the areas receiving the long (red) and the short (purple and violet) light waves. I then knew what had happened and my only thought was to get home before greater consequences followed. I reached home with no greater annoyance than that occasioned by the fluttering display of colors."

The injury to the brain had occurred. A blood clot had formed which was exerting pressure on important brain centers. How was the mind reacting? Clark reports: "I saw everything double, and in trying to feed myself, I was always feeding the wrong face. Mental processes were askew. I could not read, as a combination of letters conveyed no meaning to the brain, nor did figures. My surgical instruments that I had used for years seemed strange to me, and while I knew what they were, could not get it through my head to use them. Writing was out of the question. I not only could not write a line straight, but when I had made a letter, I would find that I had made some other letter and the word did not make sense. At this point, mental confusion and dizziness were at their maximum, and the equilibrium was decidedly unbalanced. In crossing the room, I bumped into things, and had a desire to sleep most of the time."

The second factor in the chemical brew of the brain is the chemical makeup of the blood that feeds the brain. Within the past few years methods have been developed to study the biochemistry of brain blood in a really scientific manner. Abraham Myerson and Roy D. Halloran in 1927 described a new method for studying brain metabolism in health and disease by puncture of the internal jugular vein. A few years later a technique was evolved in which the carotid artery was punctured to enable them to investigate the changes that took place in the chemistry of the blood as it enters and leaves the brain. It seems logical that a study of the blood directly before entering and immediately after leaving the brain before admixture with the blood from other parts of the body should give some information as to brain activity.

Myerson and Halloran found that sugar disappeared between the internal jugular vein and the carotid artery. This means that the brain requires sugar for its proper function. Too little or too much sugar in the blood supply to the brain results in altered brain function. Katzenelbogen has shown that increased sugar metabolism by the brain is manifested in various types of insanity. Too little sugar in the blood flowing to the brain results in reduced mentation.

The mineral composition of the brain blood is also of value in giving us an inkling into the problem of intelligence. Calcium and phosphorus are required for the maintenance of normal irritability of all nervous tissue. In cases where these elements are decreased there is a resultant sluggishness of the mental processes. When they are increased there is an impulsive overactivity of mentation and confusion. These minerals are increased in cases of insanity.

Walter Freeman, a foremost student of brain function, some ten years ago, read a paper before the American Medical Association in which he discussed the implications of psychochemistry. Psychochemistry is a recent science. It involves the chemical evaluation of the mental processes and will no doubt soon take its place beside psychology and psychoanalysis in enabling us to understand how the brain works.

183 AVENUE O

# PSYCHOMETRIC EVALUATION OF SEDATIVES*

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Psychometric examinations of general intelligence are standardized tests which enable the psychologist and neurologist to appraise the global capacity of the individual to act purposefully, to think clearly and rationally, and to respond effectively to environmental stimuli (1). The value of psychometry has long been universally recognized and its practical applications have been extended prodigiously in clinics, hospitals, schools, colleges, industry, civil service and the armed services (2,3).

Whereas psychometric examinations are most commonly used primarily for obtaining intelligence ratings, it is important to recall that the results provide highly significant information over and above mere mental age or I.Q. A complex of factors is involved in answering a mental test: attitude, attention, level of intelligence, emotional state, sensory status, reasoning ability, perception of relationships, quickness, accuracy, fatigability, distractability.

Further, the measurement of an individual's scholastic ability under stress of a time limit forms a background against which to judge mental and emotional behavior. The test creates a condition of heightened tension associated with fear and excitement and tends to induce or aggravate a state of anxiety; hence many of the elements present in ordinary social situations are closely simulated or reproduced (4).

According to the humor of the individual, this anxiety may be a factor of great biological significance for good or ill. If the individual's mental state and nervous system are conditioned to receive the stress imposed, the anxiety may be a factor for good. This conditioning process may be the result of habit in the constitutionally strong but may be difficult to achieve in those of weak habitus (5).

Psychometric examinations, objectively disclosing the results of the interaction of all these factors, afford a means of measuring the effects of sedation in the neuroses, intellectual performance being directly dependent upon the overall reaction to the stimuli of the test situation. Objective, psychometric evaluation of different sedatives is thereby rendered possible.

In the present study, the effects of two types of sedatives (barbiturate and bromide) on intellectual performance of neurotics were psychometrically determined by means of the standard Pintner General Ability Tests. These objective determinations were compared with the findings in the clinic and the results of psychiatric examinations.

## The Pintner General Ability Tests

These tests have been developed to meet modern requirements for a complete series of group tests of general intellectual ability or aptitude covering all levels. For convenience in administration and in order to provide tests which are long enough to be reliable, the series is organized into several batteries. Each battery provides for measurement of a variety of skills or abilities which constitute different aspects of the composite quality that is usually termed general mental ability. Thus, through the following eight subtests, eight different aspects of general ability are measured:

| | |
|---|---|
| Vocabulary | Classification |
| Logical selection | Opposites |
| Number sequence | Analogies |
| Judgment | Arithmetic reasoning |

All the tests are essentially verbal in nature, requiring the understanding of language. Tests involving an understanding of the precise meaning of words have been given a prominent place not only in psychological investigations of Intelligence Quotients under various conditions but also in classifying and advancing trainees in the armed services.

The Pintner tests are semi-selfadministering, in that all instructions concerning the method of response are given prior to the beginning of the test. All items are of the five alternative answer type.

The wide sampling of the traits or factors which comprise general mental ability insures a high degree of validity for the Pintner tests and correlations between odd and even items indicate satisfactory reliability. The norms for these tests have been established in terms of the median standard scores. These norms represent the average scores of large unselected populations at each age group. In all but the extreme upper range, the ages corresponding to scores are true mental ages in the sense that they are the ages for which the given scores are average or typical performance. Some extrapolation was necessary in order to take care of the older individuals to whom the tests may be given, but even these extrapolated age-score values represent a very careful estimate on the basis of considerable data of the true average score for these older individuals.

Thus mentation (intellectual performance) is measured by application of a scientifically standardized scale; this rating is expressed as a standard score, from which the I.Q. is derived.

## Clinical Material

Fifty patients were selected from clinical practice. All had symptoms of anxiety neurosis. There were eighteen male patients and thirty-two female, ranging in age from ten years to seventy-one years and representing a wide variety of occupations and levels of economic success. They comprised a typical cross-section or representative group of patients seeking relief from neuroses.

## Administration of the Examinations

Each patient was given three psychometric examinations: 1, following a period of no medica-

*This investigation was aided by a research grant from the Dios Chemical Co. of St. Louis.

tion (control measurement of intellectual performance); 2, after one week of sedation with bromide (three teaspoonfuls of neurosine daily), and 3, one-half hour after receiving three fourths grain of sodium pentobarbital. The examination was in every case administered in a quiet room, adequate precautions being taken to avoid interruption or other disturbance. The subject was instructed to read with the examiner the sample question and instructions at the top of the page. Then the subject was directed to proceed to answer the examination. The standardized time limits for the tests were adhered to within a margin of a few seconds. If more than the allotted time was consumed, the balance of the test completed in the excess time was disallowed.

### Elimination of Practice Effect as a Consideration

Psychometric experience has demonstrated that it is practically impossible to attain a satisfactory degree of accuracy in attempted measurement and correction for practice effect; i.e., the effect which previous experience with a given mental task has on a later trial. In practical clinical work, it is best to avoid such effects or to adopt a procedure that offsets or eliminates them as a consideration.

In the present study, the first measurement of intellectual performance was made in the first twenty-five cases after one week of bromide medication. Next followed a period of no medication and the control measurement was then made. In cases 26 to 50, the first measurement was the control, following a period of no medication. The second psychometric measurement in this group was made after a week of bromide administration. In all fiifty cases, the third measurement of intellectual performance was made one-half hour after the patient had received three-fourth grain of sodium pentobarbital.

This order of measurement permitted an exact comparison between the determinations in the control measurement and the scores after bromide medication. Any possible advantage gained from practice (previous experience) would affect only the standard scores following sodium pentobarbital administration. The lower scores after barbiturate showed that any practice effect involved must be considered insignificant.

### Psychiatric Examinations and Observation

Each patient was given three psychiatric examinations. Leading question techniques were used to suggest avenues of thought and action and the patient was encouraged to talk about himself. The patient's appearance, behavior and statements were recorded. Furthermore, during each psychometric examination the patient was under steady observation. In addition, a complete clinical investigation was made to determine any possible organic cause for the psychic manifestations.

### Results of Tests

The average Intelligence Quotient was 109 (a Standard Score of 194) when no medication was given to the group of patients exhibiting symptoms of nervousness and anxiety. This nervousness and anxiety were sufficiently relieved one-half hour after three-fourth grain of sodium pentobarbital for the group to achieve the higher Intelligence Quotient of 112 (a Standard Score of 197). After bromide medication, this same group of patients was sufficiently calm to achieve an average Intelligence Quotient of 116 (a Standard Score of 201).

Bromide sedation resulted in improved achievement in thirty-eight of the fifty patients as compared with achievement levels after a period of no medication. Thirty-five of the group of fifty patients showed higher performance after bromide medication than after administration of barbiturate.

### Statistical Analysis

In the results of these tests, calculations involving the scores of eight different sub-tests repeated three times for each of fifty individuals produce twelve hundred significant figures from which calculations may be made. Proof of the general validity of the tests is found in the good general conformation of the results taken with no medication as shown in the table. The distribution curve, double decades of standard scores against the number of individuals achieving these scores, conforms generally with the distribution curve formula: $y=e\text{-}x^2$. The results after bromide (neurosine) medication and after barbiturate medication reach higher levels, showing better performance after medication.

**Table: Number of Test Subjects Achieving Median Standard Scores With and Without Medication**

| *Median Standard Scores* | *Number of Test Subjects* | | |
|---|---|---|---|
| | *No Medication* | *Neurosine* | *Sodium Pentobarbital* |
| 120-139 | 1 | 1 | 2 |
| 140-159 | 5 | 5 | 5 |
| 160-179 | 10 | 8 | 10 |
| 180-199 | 10 | 9 | 9 |
| 200-219 | 14 | 10 | 8 |
| 220-239 | 8 | 13 | 14 |
| 240-250 | 2 | 4 | 2 |

### Clinical Findings and Results of Psychiatric Examinations

The effects of medication were studied clinically and by repeated psychiatric examination and observation of the patient's behavior during the psychometric examinations. Bromide sedation quite uniformly relieved tension, nervousness, anxiety and other neurotic symptoms. Barbiturate medication, in the great majority of cases, caused an exacerbation of certain symptoms but brought about sufficient alleviation of the neurotic symptoms to permit improved performance on the psychometric examinations. This improvement, however, did not equal that obtained with bromides.

### Significance of Results

It is highly significant that the stress of a time limit was one of the fundamental conditions under which the series of fifty neurotic patients were examined psychometrically. If an individual's nervous system is conditioned to respond normally to such a stress, the anxiety caused by the situation (i.e., the examination with a time limit) would mobilize

[1]Neurosine is a compound of four bromides, containing ninety grains per fluid ounce, plus therapeutic adjuvants. It was the bromide preparation used in all of these tests.

physiological mechanisms for increased activity and would energize the receptive faculties to a state of alertness. But, in the case of the neurotic patients before they received medication, increased anxiety was a disturbing factor, as shown by the low level of intellectual performance on the control examination and by psychiatric study.

Sedation, whether by barbiturate or bromide, induced a decided improvement in intellectual performance. Bromide, however, made possible the attainment of the highest scores and aided more efficaciously than barbiturate in the maintenance of mental and emotional stability.

Besides responding in more nearly normal fashion to the stimuli of the "artificial" situation (the conditions of the psychometric examination), the patients showed marked improvement in their responses, attitudes and behavior under "natural" conditions; that is, under the stress of factors and events of ordinary life that had been excessively disturbing and upsetting before medication with bromide. This beneficial action was not characteristic of barbiturate medication, which in the majority of cases had undesirable side-effects.

Thus the objectively determined effects of bromide sedation were in harmony with the clinical findings and the results of the psychiatric interviews. Although barbiturate medication was followed by improved intellectual performance, this improvement was not so marked as with bromide.

The degree of improvement in intellectual performance with bromide and barbiturate corresponded with the clinical findings and the results of psychiatric studies. Barbiturate medication did not uniformly induce increased emotional stability and relief from tension and there were numerous undesirable side-effects of the medication.


### Summary

In a series of fifty neurotic cases, psychometric tests showed that sedation with bromide or barbiturate improves intellectual performance. After a period of no medication, the average standard score was 194; after bromide sedation, the average standard score rose to 201; less improvement was effected by barbiturate medication, the standard score then being 197. Clinical studies and psychiatric observation and examination established that the objectively observed improvement resulted from relief of tension, nervousness and anxiety.


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# MALIGNANCIES OF THE LARYNX

## *Shall We Employ Surgery or Radiotherapy?*

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When radiotherapy was first introduced as a treatment for carcinoma of the larynx, only very advanced cases were turned over to the radiologists. These patients received such large doses of x ray for destruction of the tumor that, in many, the cartilaginous structures of the larynx were also destroyed. Tracheotomy was required and most of them died of general sepsis or of lung complications. Such results led most experienced laryngologists to say that radiology had no place in the treatment of laryngeal carcinoma. Surgeons claimed all of the very *early* cases for removal by laryngofissure exposure. All other intrinsic cases were set for laryngectomy. The advanced conditions, the *extrinsic* ones, were referred for radiotherapy which surely did not cure them, and probably increased the sufferings of the patients.

The position now is completely reversed. Very early cordal malignancies, formerly considered ideal for laryngofissure, are now claimed by the radiologist; the more advanced cases are sent in for laryngeal surgery.

What is an *early* case? It is one in which the growth is confined to the middle of the cord, and so superficial as not to interfere with the motility of the cord. The results from radiation in these cases are excellent, in fact real "cures" may be obtained. Examination after treatment is completed will show a perfectly normal cord. The voice, too, is normal. Such an excellent result cannot be obtained by surgery.

The signs of advancement, to be discovered at examination, are: 1, lagging in the swing of the cord even when the arytenoid still moves freely. This lagging suggests invasion of the intrinsic muscles. 2, Fixation of the arytenoid. 3, Extension of the growth to or across the anterior commisure. 4, Extension into the ventricle or ventricular band. 5. Extension to the subcordal region. If the cancer has done any one of these five things, in the author's opinion, a surgical attack gives much more assurance of a cure.

It may be asked, does the histological character of the tumor make any difference in the result? It would appear to make very little. Even the highly differentiated growths, confined to the center of the cord, as described above, will yield readily to x ray. Perhaps, if the tumor is undifferentiated it

will require a smaller dose. Moreover, if it is superficial and sprouting in its appearance, the chances are better for cure by radiotherapy. The important determining factors are the mobility of the cord and the location of the growth.

When a cancer of the larynx has become extrinsic the prognosis for cure by either radiotherapy or surgery is much worse. Undifferentiated, rapidly-growing tumors are best treated by x ray, especially if the cervical glands are involved. Well-differentiated growths should be removed surgically, by laryngectomy, combined with a radical removal of the glands of the neck.

103 EAST SEVENTY-EIGHTH STREET

# CAST TREATMENT FOR SEVERE BURNS OF THE EXTREMITIES

## *Influenced by a Physiological Pharmacodynamic Viewpoint of Burns*

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Man in his infinite wisdom still does not approach the perfection of Nature! In reading the literature, past and present, we notice how cleverly the human body is made antiseptic by immersion after being severely burned. The main object, apparently, was to get rid of socalled "germs" for fear of volcanic infections, even after these germs have perished in the sterile flames. Why, then, such an avalanche of medicaments for bacteriostatic action in burns, and some medicaments for pain? And why so little physiological thought or stimulation of the human elements which are already there to protect us and heal our burns?

Phagocytosis and leukocytosis are our greatest counterattack in burns. The destruction of tissue by burns, with its attendant pathological results of necrosis, hyperamia and vascularity, leaves a perfect media for the growth of secondary infection. However, with every burn, also comes an increase in fighting forces, especially polymorphonuclear cells, which tend to make a great fight and keep the field as sterile as possible. The plasma and fibrinogen in our blood stream are excellent agents for healing. This is not only true in burns but also in many surgical cases where healing is slow and where plasma and fibrinogen have been added extraneously to stimulate the growth of fibrin and eventual quicker healing.

Keeping the above mentioned principles of Nature in mind, we now proceed cautiously but progressively to the next step in the treatment of burns, in which the human being himself is considered more deeply. The patient with severe burns has, besides a local reaction, also a general reaction. There is attendant agonizing pain, shock, loss of body tissue as well as body fluid, and sometimes uremia and anemia.

Pain is a factor which must be controlled, and after all is said and done, morphine sulphate still is the best and safest drug when employed judiciously, and I mean judiciously! This does not necessarily mean too little, because then it is useless and the patient still suffers. Too much morphine sulphate is naturally detrimental and therefore again useless. It is better to repeat the dose (grain one-sixth) in a short time than give a large dose which, once given, is no longer controllable. As a pain killer, morphine sulphate is still the best and quickest drug. A patient with excruciating pain definitely has a low resistance. The immediate relief of pain and the sleep which possibly follows surely will give the patient a better opportunity to fight his pathological enemies.

Shock should be considered and dealt with at once, if the mortality quota is to be kept down! Intravenous injections of five percent glucose solution in normal saline, with vitamin $B_1$ added, should be kept up in a slow and steady stream, four thousand to eight thousand cc. being given during the first twenty-four hours, in severe cases. Of course, if plasma or whole blood transfusion is available, it should be given without question, giving special attention to the Rh factor. Transfusion is definitely life-saving, since it supplies the fluid that is lost, and actually gives us the humeral elements which increase our fighting forces, previously discussed in detail.

Thus at one and the same time, shock, anemia and uremia are combated by the introduction of artificial fluids and fighting forces to the body (glucose, saline, vitamin $B_1$ and sterile water) on the one hand and the more natural plasma and whole blood on the other. Thus we aid materially and physiologically in filling the fluid-depleted patient and keeping him alive for further treatment, locally, of the actual burns.

Our discussion now leads to the specific physiological and pharmacological (and also logical) aid in the treatment of severe burns of the extremities, upper, or lower or both. The quicker burns of the extremity are healed, the quicker will the patient be able to return to work, which in itself is an extremely important economic factor to him. When first seen, these burns of the extremity are given the general treatment for burns already outlined above. This is done so as to have a *live* patient to work on, and also to increase the patient's physiological processes and thus attain a body functioning as nearly normal as possible.

Given this specific second or third degree type of severe extremity burns, our primary step is to do a complete and total debridement, so as to remove all necrotic tissues which are already useless to the patient and too useful to invading organisms. This procedure is always stressed in textbooks, but not always on the actual patient, because debridement is rarely done completely. Generally, just the obvious dead tissue is removed without fanfare. This is insufficient! Remove destroyed tissue until fresh and healthy tissue is encountered and even slightly pene-

trated. This is to insure the healthy proliferation of normal cells in the process of healing. The danger of infection is negligible and indeed diminished if really *all* necrotic tissue (as well as the clothing around it) is removed, as in so doing the media for the bacteria is transferred from the patient to the wastecan!

Needless to say, this debridement is done under absolute sterile precautions, if possible, the same as for any major operation in any nearly perfect operating room. This thorough debridement completed, I use only five percent gentian-violet in neutral solution, as a spray over the area denuded. I have found that gentian-violet in this strength is bactericidal to most organisms, and is bacteriostatic to the others; then, too, gentian-violet is a dye which has definite stimulating powers to cells and thus enhances the natural proliferation necessary in cases of severe burns. Thus we have an antiseptic and a healing agent combined in one chemical. After applying the gentian-violet liberally, I wait until the solution dries, which it does very rapidly and does not burn the patient, because the solution is aqueous (not in alcohol, which is irritating).

To stimulate better healing and also to prevent the gauze from *sticking* to the burned surface, vitamins A and D ointment is applied. If deemed advisible, sulphadiazine or penicillin or both are given prophylactically, all depending upon the individual case.

The patient is watched carefully, and I mean carefully, but the wounds are left intact for two days. If infection does not set in (and this is uncommon if the above mentioned procedures are used), I cleanse the wound with normal saline solution, dry with sterile gauze, and reapply the five percent gentian-violet in neutral solution, and then add the vitamins A and D ointment thickly. Finally, a light plaster of paris cast is applied. The cast remains for two weeks, without removal, even if the temperature fluctuates, and the patient is somewhat toxic. Upon removal of the cast, there is usually a mushy layer of dead tissue underneath which a healthy pink granulating tissue is generally found. If not completely healed, a new cast is applied in the same manner already indicated.

With approximately fifteen years of experience with this method, I have found healing to be faster, and the tissue grown smoother and more normal than in any other treatment for severe burns of the extremities. Plastic surgery is seldom instituted since, in these extremity burns, ugly scarring is rare.

2080 GRAND AVENUE

# THE SMALL MATERNITY HOSPITAL

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In discussing the small maternity hospital the question naturally arises, has the large hospital been overdone? Recent medical literature has many references to this problem, and in considering it, I frankly disclaim any attempt at criticism of the larger institutions. Even a comparison of the small with the large hospital is presented merely that the opportunities and requirements of the small hospital may be more clearly pointed out.

The great metropolitan centres, the large hospital in medium sized cities, and the general hospital in the smaller cities and towns need no champion, and most certainly no apology. The excellence of their work, the opportunities they present for research and graduate teaching, and the results to which they may justly point with pride are self-evident. The small private hospital, with its special service, cannot, and does not expect, or even pretend to take the well established place of the general hospital. Whatever the small hospital may offer, physicians and patients alike will continue to feel the need and recognize the opportunities of the large institution.

## What Is a Small Hospital?

Size is somewhat a matter of relativity. As compared with a metropolitan medical centre the one hundred bed hospital of a New England town would seem "small"; likewise, the five or ten bed private maternity hospital is small in comparison with the one hundred bed general hospital. Size may also be a matter of that subjective quality "atmosphere", or personal comfort. The expensive private suite of an exclusive East Side hospital may have the hall-marks or "atmosphere" of the socalled small maternity. I have in mind the obstetrical service of the Polyclinic Hospital in New York, where, although on the sixth floor of a skyscraper, this service, with its branching corridors, four-bed wards, and segregated private suites may easily, from the patient's point of view, have the characteristics of a small maternity hospital.

But to speak more specifically of the small hospital, as it is considered in this paper, let us endeavor to define it: It is generally, although not necessarily, a privately owned and personally supervised hospital, occupying a small building, which presumably has been built or reconstructed to suit the needs for which it is to be used. Its bed service may range all the way from five to twenty-five. It is a hospital small enough to have the atmosphere of a home, and in some sense definitely aiming so to do. Such hospitals have sometimes been popularly called "nursing homes", although such a designation is in no sense expressive of what we have in mind.

Time was (we trust it is no longer true), when the private maternity hospital was altogether lacking in those characteristics which make for scientific obstetrics; where asepsis, sterilization, and trained nursing were ignored and even an unsavory stigma was associated with the name. Of such we have nothing to say in this paper. The small maternity of which we speak is as far removed from this as the New England Medical Centre is from Sari Gamp. The characteristics of the small maternity claiming a right to out considera-

tion will become more evident as one considers the equipment and facilities offered.

### Qualifications for the Small Maternity Hospital

In speaking of qualifications one does not propose to lay down dogmatic rules, nor does one presume to adapt or modify the hospital requirements of the College of Surgeons or the American Medical Association Council. Rather it a suggestion of what the small private maternity hospital may, itself, do to raise its standards and offer acceptable service to the public and to the profession.

*1. Rooms or wards.*—(a) Presumably there will be one or two private rooms or two bed rooms. If there is a "ward" it will quite likely contain not more than three or four beds. Private rooms may be furnished and decorated to suit the most fastidious taste. Color schemes—although from an obstetrical point of view might seem most remote from consideration—nevertheless have a strong appeal to many, and may add not a little to the comfort and ease of a sensitive patient. I have seen a prospective mother choose a private hospital and room largely on the basis of what seems so trivial a matter as the color scheme of the room.

(b) More particularly one must consider the hygienic conditions of the room. It should be sunny, well ventilated and properly heated, and the walls, floors, ceilings and draperies must be easily cleaned and kept clean at all times. In the ward, screens to separate beds for the needed privacy must be provided and constructed of a material easily kept immaculate.

*2. Beds.*—I have seen a patient's choice of a room turn on the height of the bed. For nurse and physician the regular height hospital bed is undoubtedly most convenient, but in the small hospital it is possible to have one or two beds of lower height to accommodate the particular patient. The midvictorian wooden bed with its danger of harboring parisites has no place. The beds must be of metal, with wire springs and hard but comfortable mattresses that may be easily cleaned.

*3. Diet kitchen.*—This should be sufficiently removed from the patients to prevent the unpleasant odors of food preparation from reaching the patients. It should be modern, sanitary and well equipped. Of the diet, one may merely suggest that it may have the flavor of home cooking and may be modified to suit the case more easily than would be possible in a larger institution.

*4. Nursery.*—Some states require that every lying-in hospital shall have a nursery separate from the patients' rooms. This should be the case in all such hospitals. The nursery in the small hospital, while complying with all the requirements of modern pediatrics, with portable bassinets, washing and dressing tables, even proper temperature, etc., may have the added advantage of beauty and charm, which appeals to the mother more than the colorless or glaring white nursery of the older institutions. As has been recently pointed out, the mother sees too little of her child in the larger hospital, and a return to the more intimate relation between mother and child would be desirable.

*5. Delivery room.*—The private maternity hospital of a few years ago had no delivery room, in many instances. Today, such a hospital, with but a few beds, has a modern delivery room comparable with that of the city hospital. One of the essentials of the delivery room is proper lighting. It must be of adequate watt, properly located, and the shades of material that may be easily cleaned.

The delivery table is modern, of proper height, preferably a divided table with all necessary attachments for various operative positions. Sterilizers must be modern, tested, and in constant readiness. Separate instrument table and solution stands, anesthesia equipment and receiving bassinets for the baby are all properly placed, equipped and in constant readiness. An abundant supply of sterile drapes, towels, sponges, gowns, gloves and other necessary packs will always be on hand, and properly labeled. In brief, the delivery room must be in every sense the equal of that in any scientific maternity hospital. The day of the small hospital with delivery in the bed or hastily improvised delivery room ought to be a thing of the past.

*6. Scrub room.*—The small maternity hospital today must also have a scrub room with modern plumbing for physicians and nurse. This should be easily accessible from the delivery room and amply provided with all necessary equipment.

*7. Instrument and drug room.*—Either in or handy to the delivery room there should be a well stocked cabinet or room with several cabinets containing all necessary obstetrical instruments, and a supply of drugs ready for instant use. One may no longer tolerate the nursing home with a few old instruments picked up hit or miss, and a few drugs in the family medicine closet that have been left by the last doctor who delivered a patient there.

*8. Laboratory.*—This must be well equipped for all necessary procedures.

*9. Utility room.*—The location of the utility room is of utmost importance. It must be within easy access for nurses, and at the same time so situated that the noise so common in the large institution will be avoided. The noisy utility room has occasionally been criticised more than almost any other single factor.

### The Obstetrical and Nursing Staffs

Quite as important as the hospital and its equipment is the staff and its nurses.

*1. The obstetrical staff.*—The private maternity hospital will probably have an open staff, and the staff of the small maternity is generally "open". This does not mean that the private maternity must admit to its service any and every physician regardless of his ability or reputation. The management of the small maternity ought to be as scrupulous as that of the general hospital regarding the physicians to whom its doors are open. In fact, it cannot be too careful that nothing blots the fair reputation it is bound to maintain. However, there are physicians who for one or another legitimate reason, or from choice, are not connected with local general hospitals, but whose practice is largely or primarily obstetrical. To such medical men the private hospital offers a definite service. Then, too, in most communities there are many physicians, members of the local general hospital staff, with a large obstetrical practice, who have patients who prefer the small hospital. Here again the small maternity offers a real service. There are also out-of-town physicians who have patients who do not care to go the long distance to a given hospital of which the physician is a staff member, but who nevertheless wish him to attend them in their confinement. And

again the small maternity serves a need. Finally, there are the physicians who occasionally accept obstetrical cases, and have no general hospital appointment for that particular service. Once more the small maternity serves.

*2. The consulting staff (medical and surgical consultant).*—Every obstetrician recalls the advantages of conference and consultation in his professional work. Almost daily, in the metropolitan hospitals, a group of obstetricians gather to talk over their cases. While a given case may not be complicated, another may from the first present complications. In either instance the advantages of conference are obvious. The small maternity being "open" any physician may feel free to call in whom he will for conference and consultation. Thus the small maternity offers the advantages of a greater institution.

*3. The ward staff.*—Strictly speaking, there is not likely to be a "regular" or "ward staff" in the small maternity hospital for the obvious reason that most cases in this type of hospital are likely to be paying patients. This is to be expected. There may, however, be not a few patients who come prepared to pay the usual obstetrician's fee. Here the small maternity hospital may do what the large institution does—call on the profession to come to its assistance. The small hospital may have one or two obstetricians who will gladly render this service.

*4. The nursing staff.*—This will depend greatly on the size of the hospital. In many cases the owner of the hospital is a graduate and regular R.N. In which case he will serve as the superintendent, and engage such full or part time assistance as may be necessary to render the best possible service. Some such assistance will be constantly available. At the time of delivery a sterile nurse, anesthetist or other needed assistant will be provided by the hospital or the attending obstetrician. Specialists, anesthetists, pediatricians, and surgeons will, of course, be called as in any hospital.

Finally, the small maternity hospital will aim to offer the best possible obstetrical service and will be "open" to physicians in general, provided, of course, they are of good reputation, members in good standing of their professional societies and regularly licensed by their state examining boards.

## Comparisons

In comparing the small and large hospitals, it is not intended to do so with any sense of disparagement of the large institution. It is my purpose merely to point out what the small hospital has to offer which appeals to the patient who for one or another reason chooses not to go to the large hospital. The reasons presented are from the patient's point of view.

## Points in Favor of the Small Hospital

There is the popular (though unjustified) fear of hospitals. In the patient's mind this is obviated in the small maternity hospital.

The small hospital seems "homelike"; the sense of "institutionalism" is absent.

The patient enjoys the opportunity to move about with greater freedom, and visiting hours are elastic.

With fewer babies there is less chance of accidentally exhanging them. (Some state regulations govern this safeguard.) There is also less danger of contagion or infection than in large crowded wards.

The staff being "open", one may have one's physician of choice. The patient is safeguarded because the hospital admits only physicians of good reputation, in good standing and licensed by the state. One need not fear that she will be left to the care of students or interns. The nurse will not be a student in training. There will be privacy, with no staff or intern coming in or out to observe.

The number of cases being limited, care will be more personal. With few babies, they will receive closer attention. The mother may see her baby at will unless there are contraindictions.

The diet is more homelike than is possible where large quantities of food are prepared together, and carried long distances to wards.

In small wards and private rooms the confusion and disturbance of large wards are avoided. The comforts of expensive private hospitals are provided without the almost prohibitive rates. It is less expense.

## Comparison With the Private Home

The aim of the small maternity hospital is to offer to the prospective mother, who prefers her home to the general hospital, the comforts and advantages of the home together with the convenience and safety of the larger maternity hospital.

What may be said of the advantages of the small maternity over the home?

It is particularly adapted to the obstetrical requirements. The necessity of hastily arranging the home bedroom into a safe aseptic delivery room is avoided, and the cost and labor of providing necessary supplies is eliminated.

When labor is over the patient is quickly and easily transferred to a comfortable room in readiness to receive her. There is freedom from the household responsibilities that have a way of insidiously reaching the mother in her own room.

The small hospital provides the restful change so much needed after the months of gestion and hours of labor. There is constant professional care, and equipment and supplies are always in readiness without unnecessary delay. There is also proper lighting so necessary in the delivery room.

The baby is in a safe aseptic nursery and yet always near the mother. Privacy is even more assured than at home, and yet there is ample opportunity to see one's family when desired, with freedom from the annoyance of unwelcome visitors when the patient needs rest. There is no danger of infection from visitors.

An registered nurse is in attendance who is trained to know the progress of labor and when to summons the physician, and assistance is available when needed. Supplies are in readiness for obstetrician and nurse without the confusing hurry so frequent in the home, even with the most careful previous instruction to the prospective mother.

The physician goes to the case more rested and better prepared to render skilled service than when he is compelled to spend long hours waiting in a home for labor to progress.

The problem of analgesia and anesthesia is greatly simplified in the small maternity hospital as compared with the home, and every parturient patient desires the maximum relief from pain.

### Need for and Place of the Small Maternity

That there is a demand for the small hospital where prospective mothers may go for their confinements is obvious. For reasons which may or may not be sound may persons entertain a fear or at least a dread of the large hospital with its "institutional" atmosphere. These prospective mothers have four courses open to them. They may have their confinement in their own homes and depend on a general physician who accepts home cases more or less under protest and goes to them with scanty equipment. They may rarely find a physician who gives the deserved attention to home obstetrics and is willing to devote his art to that branch of medicine and surgery. They may in desperation turn to the midwife. The other course is a small hospital, with the atmosphere of a home combined with the advantages of a modern hospital. It is such a place that the small maternity hospital is called upon to fill and this type of patient to which it appeals thus saving them from the risks of hastily prepared home deliveries. It will also keep the practice of obstetrics in the hands of the medical profession where, for public well being, it ought to be kept.

If there has been a too strong tendency toward the great medical centres and the public controlled general hospitals, with their exclusive staffs and overcrowded wards, it may be that one solution of the problem is not to oppose the greater institution but rather to offer the public the small hospital while yet maintaining the high standards and scientific methods for which the profession strives. Unless the medical profession cooperates in supporting the small hospital there is a positive danger that at least one branch of scientific medicine may fall into the hands of midwives and charlatans who would usurp the place of the trained obstetrician and the patient will suffer the consequence.

It is therefore apparent that the small maternity is in no sense a rival of the large hospital nor is it an opponent. It is rather a friendly coadjutor. Neither is the small maternity a competitor or antagonist of the obstetrical specialist. Quite the reverse. The small hospital serves a need which the obstetrician himself readily recognizes; a need where the specialists may be of great service. It further serves as a bulkhead for the medical profession by assisting it to keep within safe and scientific hands this highly important branch of medicine and surgery.

By means of prenatal and postnatal clinics the small maternity hospital will be enabled to do for the patient what every physician aims to do in his private practice. Many patients, who hesitate to go to the family physician for the regular check-up before and particularly after confinement, may be ready to go to the small hospital where she may have the necessary care at the hands of her own physician without feeling that she is imposing on his time.

### Summary

1. We have admitted that the small hospital is no substitute for the larger institution.

2. We have raised the question, "What is a small hospital?" And we have pointed out that it may be a matter of relativity and that atmosphere and subjective qualities enter into its definition. We define it as a personally supervised hospital of few beds, having the atmosphere of a home and the advantages of scientific medicine.

3. We have noted some minimum requirements regarding rooms, beds, diet, kitchen, nursery, delivery room, scrub room, institution, and drug room.

4. We have considered the staff; obstetrical, consulting, ward, and nursing. Finally, noting that it will probably be an "open staff" but maintaining careful regard that physicians are of good reputation, in good standing, and regularly licensed by the state examining boards.

5. We have compared the opportunities with the large institution.

6. We have compared it with the home.

7. We have discussed the need and place of the small maternity suggestion that it serves a valuable need to the patient and likewise to the medical profession in conserving the numerous patients who might otherwise fall into unskilled or unscrupulous hands.

### Conclusion

In conclusion, we submit that the small maternity hospital serves a valuable purpose in many communities; not by overlapping the excellent work done by the larger hospital, but by supplementing it; not by competing with the members of the profession on regular hospital staffs, but by providing them an opportunity to care for their own patients who prefer a smaller, home-like hospital; not by creating another burden on a community, but by filling an existing demand.

We further maintain that small hospitals today may no longer exist in the indifferent manner of a generation ago or less, but must measure up to the increasing high demands of the medical profession and the public.

We further suggest that it offers to innumerable physicians of unquestionable character and of good standing in the profession, the opportunity to render a higher grade of scientific obstetrical service.

Finally, we submit that physicians and patients alike not only demand, but wholeheartedly appreciate the benefits of the modern small maternity hospital with its high standards and destinctive service.

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## Increasing and Diminishing the Bodily Weight

(*Continued from page* 345)

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20 EAST SIXTY-THIRD STREET

# Editorials

## Insect Killers as Health Hazards

During the war years, the public was told of marvelous insect and pest destroyers used by the armed forces to make the life of the service man safer and more comfortable. Everyone has heard of the tropical diseases carried by insects. Letters from soldiers to the folks back home did not fail to tell of their "companions" by day and night.

And so our chemists got to work to defeat the unhuman enemies. A considerable amount of publicity came out of the venture, and the public was regaled with stories of insect annihilation by means of a single whiff of an atomized substance commonly known as DDT. Clever manufacturers quickly got the idea, and soon insecticides were being sold in the stores which were "guaranteed" to do away with flies, moths and all other household disturbers with this new weapon "direct from the Army." It soon was discovered that this "magic powder" contained no DDT at all.

It is to the credit of the Upjohn Company that they have investigated the miracle and have published a report on the vices as well as the virtues of DDT in the *J.A.M.A.* for May 4, 1946. The name is taken from certain letters in the chemical name "dichlordiphenylchlorethane", a synthetic substance which is poisonous for most insects because it is *slowly* absorbed from any part of an insect's body, ultimately producing what seems to be a paralysis of the nervous system.

The compound has been known since 1875, that is, known to a few, but it was redeveloped and heralded during the latter days of World War II as something brand new. A remarkable feature of the drug is its stability under all conditions, especially in the presence of oil of any kind. It remains upon a surface indefinitely and retains its poisonous properties. But it is a *slow* poison. It does not kill flies and mosquitoes instantly, but after use, hours later, perhaps, floors and window sills may be littered with dead bodies. Out of doors, it is potent to the extent of killing off desirable creatures such as worms upon which birds feed. Recently, it has become of clinical significance.

Dry DDT can be removed from human skin by vigorous use of soap and water, but it has remarkable penetrating power into the skin without giving evidence of irritation or other annoying symptoms (itching, etc.) It is not soluble in water, but oil renders it both soluble and quickly absorbable. When inhaled, it may form crusts in the airways and be swallowed eventually. The lethal dose is somewhere between 150 and 750 mg. per kilogram of body weight.

Autopsies on animals have shown necrosis of the liver and striated muscle fibres, anterior horn cell degeneration, and peculiar changes in thyroid and brain. Symptoms are excitability, tremors, convulsions, loss of appetite and weight. However, of some one hundred persons who have been exposed to DDT in various ways, only three have developed signs and symptoms! Nevertheless, the poison may be latent and give rise days later to previously mentioned symptoms, and to insomnia, impaired hearing, diminished reflexes, weakness, prostration and psychic disturbances. The blood may show granulopenia, stippling, and reduced hemoglobin. The urine may show indican as in TNT poisoning. Blood examination may give the first hint of DDT poisoning.

The laity has been impressed by the alleged "harmlessness" of this poison; therefore, carelessness in its use is sure to follow. It is a good rule when handling any insecticide to wear rubber gloves so that skin contact does not occur. A respirator filters out some of the dust, but it may settle on dishes or food and then be swallowed. Wherever it falls on paint or other oily surface, the hands must not touch it. Finally, the container should be labeled "poison" and kept well out of easy reach. The powder form resembles flour. Small changes in the body extending over a considerable time are likely to be overlooked, and there may be no "history" or a forgotten incidental exposure to this poison. Apparently DDT is not immediately fatal but works surreptitiously in the body for nobody knows how long. It is, therefore, destructive of tissues and organs, and, possibly, eventually of life.

## Penicillin in the Treatment of Venereal Diseases

Of the many new remedies recently announced penicillin holds a leading place and has been employed in this country, in Britain and in many other parts of the globe in the treatment of numerous diseases and affections, including venereal diseases, with varying success. In the *British Medical Journal,* March 2nd, Dr. Alastair Allan, of Greenock, Scotland, writes on cases of gonorrhea treated by the single method of injecting penicillin intramuscularly. His experience with this form of treatment is promising, but he holds, rightly, that its effectiveness can only be decided upon in a large number of cases under continuous supervision.

At a meeting of the Section of Experimental Medicine and Therapeutics of the Royal Society of Medicine, held in London, on February 17th, penicillin in the treatment of syphilis was discussed. Lieutenant Colonel James Marshall, the first speaker, said in part that the method of treating early syphilis by penicillin in Britain and in the Allied Armies had not been very successful. In planning a more satisfactory method of treatment he was guided by an American observation that there was probably a synergistic action between penicillin and arsenoxide. A scheme, along the lines of the American observation, was evolved with some modifications and the results of this mode of treatment on a limited scale, according to Lieutenant Colonel Marshall, brought out the suggestion that combined therapy with penicillin and arsenoxide, although not attaining complete efficiency, was an improvement on treatment by penicillin alone. However, the numbers thus treated were not sufficient to justify a dogmatic statement, and cases must also be followed up for some months.

As for late syphilis, Lieutenant Colonel Marshall said that osseocutaneous late syphilis of the acquired or congenital type reacted rapidly to penicillin in most cases. In conclusion, he said that all agreed that some comparatively rapid method of treatment was necessary to combat the lack of enthusiasm of the patient for repeated visits to the hospital. Whether this could be found in penicillin alone, in single or repeated courses, or in some method of combined therapy, was a problem which he feared would not be settled for some time.

Other authorities on the subject who took part in the discussion agreed in the main with Colonel Marshall's conclusions that it was too early to give a definite opinion of the value of penicillin by itself or in combination in the treatment of syphilis of any type of how long standing. The general view taken was that penicillin is promising in the treatment of gonorrhea and syphilis, but much more time must elapse and more research and longer trials given of this remedy before it would be wise to speak definitely about it.

## Bovine Tuberculosis in Britain

Two diseases which have increased in Europe and Britain during the war are tuberculosis and venereal disease, the latter having grown so extensively that in many ways it has become a world-wide menace. Tuberculosis also has become more wide spread, and its cost in lives and ill health always is great. Among those countries, where climate and conditions of living are favorable for its spread, Britain is in the front rank.

However, the object of this passing review of the situation in Britain as regards tuberculosis is to sketch that concerned with bovine infection. Not long ago, the supposition that tuberculosis was of bovine origin was scoffed at by many and belief in it was held by comparatively few. Now it is acknowledged generally to be a source of danger, spread mainly by milk from infected cows. At a meeting of the British Tuberculosis Association, which took place in London on November 6, 1945, bovine tuberculosis was discussed. Dr. G. S. Wilson presented some interesting statistics as to the frequency and scope of the malady. He said that in Britain, five percent of the cows had tuberculous udders and excreted tubercle bacilli in their milk. On the average, seven percent of farms send out tuberculosis infected milk. Recent figures for pulmonary infection due to bovine tuberculosis are: Scotland, five to seven percent; England, north and Midlands, two percent, south, six-tenths percent; and Wales, one percent. It is somewhat curious to note that infected milk comes from accredited herds equally with ungraded, and bulked milk is infectious in proportion to the degree of bulking.

It goes without saying that the chief object to be achieved is prevention. Dr. Wilson pointed out that prevention could be tackled in two ways, namely, by controlling the disease in cattle and by eliminating infectivity in milk. The first method was touched upon half-heartedly by the British Tuberculosis Bill of 1925. It had little or no effect. Also withdrawal of infected beasts in accredited herds does not prevent spread of disease to other cows. In the United States, the speaker said, all cattle giving a positive tuberculin test were slaughtered and by this policy, carried out rigidly a rate of four percent, had in 1917 been reduced tenfold by 1940. In Britain such eradication would be difficult owing to an initial forty percent infection of herds, their greater crowding and the dangers of the marketing system.

It was pointed out by Dr. J. S. Westwater that bovine tuberculosis was commoner in country areas where pasteurization was lacking. Wilson summed up that in his opinion there was no age when raw milk should be the choice, that the effect of pasteurization on food value was negligible.

As said before, opinions as to the danger of bovine tuberculosis to the human race have varied considerably. Some believed there was little danger. Now the general view appears to be that the bovine type of tuberculosis bacillus may be as virulent to man as is the human type. Young children who die from primary abdominal tuberculosis show, in a large proportion of the cases, that the fatal lesions are probably owing to the bovine bacillus. In both children and adolescents suffering from tuberculous

adenitis, many of the cases might be referred to bovine tuberculosis. In lupus too, many cases appear to be referable to the bovine type of Bacillus tuberculosis. And tuberculous milk is the main source and cause of infection by the bovine type.

That milk should be as clean and free from disease germs as possible requires no argument, but how to bring this about is another matter. Perhaps, the most effective method is pasteurization, as suggested by Dr. Wilson. It is certain that milk is the chief food of infants and young children, and therefore, milk that is clean and free from disease germs, is a prime necessity and should thus be regarded by those who are responsible for the health of the public.

## The History of Spectacles

As is the case with many of our modern conveniences and necessities, the origin of spectacles is obscured in the mists of antiquity. That their principle, the magnifying glass, is extremely old can be proved to a large extent, and there is reason to believe that the magnifying power of transparent media with convex surfaces was known very early. A convex lens of rock crystal was found among the ruins of the palace of Nimrod.

Spectacles are flat glasses, spherical or cylindrical lenses, and are used to detect and correct eye defects. These lenses are made usually of rock crystal (pebbles). However, the history of spectacles, even when facts can be distinguished from imagination, by no means an easy task, is far too long to be discussed at any length here. On the other hand, a brief survey of the subject may be of interest.

It is suggested that the Chinese of the Mongol dynasty probably learned of the use of spectacles from India and Turkestan. They were introduced into Europe towards the end of the thirteenth century, presumably about 1285. Bernard de Gordon taught at Montpellier from 1285 to 1307, and his *Lilium Medicinæ* contains the first or at least one of the earliest mentions of spectacles, as "oculus berellinus", because they were made originally from a smoky stone (berillus). The discovery of spectacles has been attributed to the Indians, the Chinese, the Greeks in Rome, and by some to Roger Bacon. The latter seems to have been the first to suggest, in Europe at any rate, the use of lenses for spectacles and hinted at a combination of lenses. He may thus be regarded as the progenitor of optical apparatus, or at least foresaw their possibility, that is, in Europe. According to Pliny, Nero looked at the gladiators through an emerald (smaragd), and this doubtful happening was discussed by Lessing in his "Antiquarian Letters".

The following data are interesting if not convincing. There is an inscription on a tomb in the chapel adjoining the church of Santa Maria Maggiore (Florence) as follows: "Here lies Salvino d'Armato degli Armati of Florence, the inventor of spectacles. May God forgive his sins. He died A.D. 1317." Moreover, interest is added to this tale by the fact that in the Dictionary of the Florentine Academy (1729) it is written *sub voce* "occhiali" (spectacles) that Fra Giordano da Rivalto (1311) a monk of Pisa, stated in a sermon on February 23, 1305, that spectacles had been invented less than twenty years before and that he had seen and conversed with the inventor who was either Salvino d'Armato or the Dominican monk Alessandro della Spina, who died in 1313. In a manuscript of 1289 by Sandro di Pifozzo, published by Redi in 1648, mention is made of spectacles as a recent invention. Arnold of Villanova terms them "vitrea vocata conspicilia" and Guy de Chauliac in his *Chirugia Magna* recommends them if collyria fails. In the fourteenth and fifteenth centuries spectacles had heavy unsightly frames, the lenses were convex, and they were very expensive. According to Garrison's *History of Medicine*, the earliest known pair of spectacles, consisting of two large circular lenses connected by a nose-bridge of pince nez pattern, of which one pair the property of the Renaissance humanist, Willibald Pirkheimer (1470-1530), were on exhibition in Nuremburg Museum and the Wartburg. The earliest books on spectacles were the *Uso de los autoios* of Benito Daça de Valdes (Seville, 1623), a French version of which was printed by G. Albertotti in 1892, and *L'occhiale all'occhio* by Carlo Antonio Manzini (Bologna, 1660).

The foregoing is an incomplete account of spectacles and their discovery. It is probable that they were not invented in Europe but were introduced there from Asia where they may have been known and employed in primitive form for many years before they came to Europe. Eye affections and defects of vision have always been far more common in the Middle and Far East than in the West, and as the peoples of Asia were much more advanced in most phases of civilization and perhaps especially so in matters relating to medicine and surgery, it may be no idle conjecture to suggest that what evidence we have goes to show that spectacles were introduced into Europe rather than invented there.

It has been said that Alhazan (996-1038), the greatest exponent of optics of his era, by his experiments on the magnifying powers of the segments of a glass sphere, came very near to the theoretical exposition of magnifying lenses and may have paved the way to the invention of spectacles. But the evidence in support of the claim that magnifying lenses were known in Asia centuries previously is strong and it is quite likely, that magnifying lenses and thus spectacles were introduced into Europe and not invented there. By the way, Alhazan wrote the greatest work on optics of ancient times, the *Treasury of Optics*.

# News Items

### Annual Meeting of A.M.A.

The annual meeting of the American Medical Association will be held in San Francisco July 1-5, 1946, under the presidency of Dr. Roger I. Lee, Boston, Mass. Dr. Harrison H. Shoulders, Nashville, Tenn., president-elect, will be inducted into the presidency.

### Scholarship for the Study of Eye Diseases

The Lions Club of New York has presented $2,000 to the New York University College of Medicine for the establishment of four scholarships for the advanced study of eye diseases. The scholarships will be awarded to graduate medical students selected by the Department of Ophthalmology of the University.

### Harvey Lecture

The eighth Harvey Society Lecture was delivered at the New York Academy of Medicine on Thursday, May 16th by Dr. Carl F. Cori, professor of pharmacology, Washington University School of Medicine, St. Louis, Mo. His subject was "Enzymatic reactions in carbohydrate metabolism".

### Roswell Park Memorial Institute

Announcement is made that the name of the State Institute for the Study of Malignant Diseases, Buffalo, N. Y., has been changed to the Roswell Park Memorial Institute. Dr. Louis C. Kress, formerly director of the state division of cancer control, will continue as director of the Institute.

### Edward Jackson Memorial Lecture

Dr. Lawrence T. Post, professor of ophthalmology, Washington University School of Medicine, St. Louis, delivered the Dr. Edward Jackson Memorial Lecture at the University of Colorado School of Medicine on April 19th. His subject was "Changing eyes in a changing world".

### Bela Schick Lecture

Dr. Alexander A. Weech, B. K. Rachford professor of pediatrics, University of Cincinnati College of Medicine, delivered the Bela Schick Lecture at the Mount Sinai Hospital, New York, on May 6th. His subject was "The genesis of physiological hyperbilirubinemia".

### Symposium on Coronary Arterial Disease

At a meeting of the New York Cardiological Society, held on May 15, a symposium on the surgical treatment of coronary arterial disease was presented. Dr. Samuel A. Thompson, associate professor of surgery at the New York Medical College, discussed the surgical aspects; Dr. Milton J. Raisbeck, associate professor of medicine at the New York Medical College, discussed the medical aspects, and Dr. David Scherf, associate professor of medicine, New York Medical College, opened the discussions. The presentation covered the selection of cases, the operative procedures, and the results based upon a followup period of several years in the control of the manifestations of coronary arterial disease. Dr. Max Miller presented a report on the progress in therapeutics during 1945.

### Women's Medical Association of New York City

At the annual meeting of this association, held in New York on May 8th, Dr. Elaine Ralli, associate professor of medicine, New York University College of Medicine, was elected president; Dr. Adelaide Romaine, of the medical staff of the Federal Reserve Bank, was elected first vice-president and Dr. Lilian Cook Warnshuis, assistant clinical professor of medicine, New York University College of Medicine, chairman of the program committee.

### Fellowship in Rheumatic Disorders

The Robert Trubek Fellowship in Rheumatic Disorders, at the New York University College of Medicine and the fourth medical division of Bellevue Hospital is announced. It provides a one year, nonresident appointment open to graduate physicians with at least two years of previous training in internal medicine or its equivalent. The fellowship will combine supervised research and special clinical training in the rheumatic disorders under the direction of Dr. Otto Steinbrocker. The stipend is $2,500 a year.

### Ricketts Prize Award

Dr. Preston E. Harrison, assistant professor of bacteriology, Baylor University, Texas, has been awarded the Howard Taylor Ricketts prize for outstanding research in the chemotherapy of infectious disease in the University of Chicago's department of bacteriology and parasitology. The award, presented on the thirty-sixth anniversary of the death of Dr. Howard Taylor Ricketts, who became a victim to typhus fever while working on that disease in Mexico, was established by Dr. Ricketts' widow. Dr. Harrison is the forty-third recipient.

### Passano Foundation Award

Dr. Ernest W. Goodpasture, professor of pathology and dean of the School of Medicine, Vanderbilt University, Nashville, Tenn., has been selected as the 1946 recipient of the Passano Foundation Award which was established in 1944 by the Williams and Wilkins Company, Baltimore. The presentation of the $5,000 cash award was made at a meeting held in the Medical and Chirurgical Faculty of Maryland on May 15th. Dr. Goodpasture delivered an address on "Research and medical practice."

### Medical Society of the State of New York

Dr. Louis H. Bauer, Hempstead, L.I., was elected president-elect of the Medical Society of the State of New York at the one hundred and fortieth annual meeting held in New York during the week of April 29th, and Dr. William Hale, Utica, N. Y., was inducted into the presidency. Other officers elected were: Dr. Charles D. Post, Syracuse, N.Y., second vice-president; Dr. W. P. Anderton, New York, secretary; Dr. W. Guernsey Frey, New York, assistant secretary; Dr. James R. Reuling, Jr., Bayside, treasurer; Dr. Fenwick Beekman, New York, assistant treasurer; Dr. F. Leslie Sullivan, Schenectady, N. Y., speaker; Dr. Albert F. Andresen, Brooklyn, N. Y., vice-speaker; Dr. Kirby Dwight, New York, trustee; and Dr. E. Christopher Wood, White Plains, N. Y., Dr. Carlton E. Wertz, Buffalo, N. Y., and Dr. Charles M. Allaben,, Binghamton, N. Y., councilors.

### Industrial Physicians and Surgeons to Hold Meeting

A meeting of the Western Association of the Industrial Physicians and Surgeons will be held on June 30th in San Francisco, under the presidency of Dr. Richard O. Schofield, Sacramento, Calif. An interesting feature of the program will be a symposium on the worker and his job, in which the following aspects of the subject will be discussed: personnel, veteran rehabilitation, civilian rehabilitation, government employment, industrial safety, workmen's compensation, public health-education-insurance, industrial hygiene, labor and management.

### New York University Alumni Association Elects Officers

Dr. Hippolyte M. Wertheim, assistant professor of clinical surgery, New York University College of Medicine, and a member of the staffs of Bellevue and French Hospitals, has been elected president of the Alumni Association of New York University College of Medicine, succeeding Dr. Hervey C. Williamson. Other officers elected were Dr. John M. Lore, clinical professor of otorhinolaryngology, vice-president; Dr. Evan W. McLave, assistant professor of medicine, secretary; Dr. Sydney D. Weston, Brooklyn, treasurer, and Dr. John M. Hanford, Presbyterian Hospital, Alumni Federation director.

### Sterling-Winthrop Research Institute

The formation of the Sterling-Winthrop Research Institute as a new decision of Sterling Drug Co., to expand its research and coordinate that of its divisions and subsidiaries, has been announced. The Institute will be housed in new research laboratories to be erected at Rensselaer, N. Y. when building materials are available. Dr. Maurice L. Tainter, research director of Winthrop Chemical Company, Inc., a subsidiary, has been named director of the Institute.

### Schering Award for 1946

The Schering Award for 1946, a competition open to undergraduate medical students, has been announced. Held annually to encourage medical students to acquire further knowledge of various fields of endocrinology, the subject of this year's thousand dollar prize contest will be, "The Role of Hormone's in Sterility." Three judges, each prominent in the field of endocrinology, will make the selections, and the award is sponsored by Schering Corporation of Bloomfield, New Jersey. For the best thesis submitted on the subject, an award of five hundred dollars will be given. For the second and third best papers, awards of three hundred and two hundred dollars, respectively, will be given.

### Gift of Drugs to Philippine National Red Cross

Schering Corporation of Bloomfield, N. J. has donated Schering drug products, valued at more than $40,000, to the American National Red Cross for use by the Philippine National Red Cross in the civilian aspects of rehabilitation operations in the area. Government and relief agencies recently appealed for medical and surgical supplies for the desolated sections of the Philippines, and Schering's important contribution was promptly accepted by the general supply officer of the Red Cross in Washington.

### Personal

Lt. Col. Vincent Paul Graham, who has been chief of x ray services at Camp Grant, Vaughan General Hospital and Regional Hospital at Fort Ord since 1942, has been appointed assistant professor of roentgenology at the University of Chicago. Before going into the Army, Dr. Graham was a resident and assistant in radiology at Newton Hospital, Boston, Mass.

Dr. Courtney M. Smith, acting medical director of the American Red Cross, has been appointed administrator of medical services, succeeding Dr. G. Foard McGinnes.

Dr. John A. Ferrell, New York, has resigned as executive officer of the John and Mary R. Markle Foundation.

Dr. Arnold J. Lehman, professor of pharmacology, University of North Carolina School of Medicine, Chapel Hill, has been appointed chief of the division of pharmacology, Food and Drug Administration, Washington, D. C.

Dr. George C. Beach Jr., Topeka, Kan., has been appointed commanding general of the Army Medical Center, succeeding Major General Shelley U. Marietta, who was retired from active service.

Dr. Stockton Kimball, a member of the faculty of the University of Buffalo School of Medicine, has been appointed dean of the school to succeed Dr. Edward W. Koch, who died last February.

Dr. Dale C. Stahle, Harrisburg, Pa., has been appointed acting director of the bureau of tuberculosis, state department of health.

Dr. George C. Henry, Philadelphia, has been appointed professor of medical physics and head of the department of physics at Temple University School of Medicine and Hospital, Philadelphia.

Dr. I. Ogden Woodruff was elected a vice-president of the New York Health Council of Greater New York, at a meeting held on May 21st for purposes of organization.

Dr. William Washington Vaughan, commanding general of the Valley Forge General Hospital at Phoenixville, Pa., will be manager of this hospital when it is taken over from the Army by the Veterans Administration at the end of this year. Brigadier General Vaughan recently retired after nearly thirty-three years of active service.

### Anniversary Banquet of I.S.S.A.P.

Chapter Magnum of the International Spanish Speaking Association of Physicians celebrated its nineteenth anniversary with a banquet, concert and ball at the Waldorf Astoria on the evening of Tuesday, May 14th. The evening's entertainment was a great success. The guest speakers included the former president of Panama and the Consuls General of Cuba, Yugoslavia, Russia, Colombia, Brazil and Guatemala. These speakers all discussed the necessity of establishing a Spanish speaking hospital in New York City. Señor Carelli, of the Metropolitan Opera, sang several arias and was accompanied on the piano by Dr. Reyner. Dr. J. M. Gershberg, founder and president of the association, presided and introduced the speakers.

### Exhibit of Paintings at A.M.A. Meeting

A series of seven paintings entitled "The Seven Ages of a Physician" will be exhibited at the San Francisco meeting of the American Medical Association, June 28th to July 7th. These paintings are by the contemporary artist James Chapin, who was commissioned by the Ciba Pharmaceutical Products, Inc., to paint the series which paraphrases Shakespeare's seven ages of man. These paintings are as follows:

First, "The Doctor's Son", showing an infant child attempting to reach for his father's stethoscope; second, "The Dying Hare—A Boy's Dedication to Healing", which portrays a youth, overcome with remorse at having wounded a hare and filled with a desire to make whole the creature which he destroyed; third, "Medical Education—The Bedside Lecture", which depicts the relationship between doctor and patient; fourth, "The Doctor", illustrating the role of the doctor as an arbiter of birth, healer of the sick and maimed and comforter of the aged; fifth, "The Doctor in War", in which the doctor and nurse are seen as ministering angels, inclining above a suffering figure in the foreground; sixth, "Research Heroic—The Self-Inoculation", illustrating the heroism of numerous doctors, who have experimented on themselves in their search for new serums to prevent or cure disease; seventh, "Doctor's Heritage", an effective study of an elderly physician and a student doctor.

### Public Health Fellowships

Announcement is made by the U. S. Public Health Service that a grant for the establishment of 125 fellowships to train physicians and sanitary engineers in public health has been approved by the National Foundation for Infantile Paralysis. Each fellowship provides a year's graduate training in a school of public health or a school of sanitary engineering. The fellowships will be administered by the Committee on Training of Public Health Personnel, which consists of representatives of schools of public health, the State and Territorial Health Officers, the American Public Health Association and the U. S. Public Health Service. The fellowships are available either during the academic year beginning in the fall of 1946 or the fall of 1947, and are open to men and women, citizens of the United States under forty-five years of age. Further details regarding these fellowships may be secured by writing to the Surgeon General, U. S. Public Health Service, Washington 25, D.C. The awards committee will act on applications on June 15th, July 1st, July 15th and August 1st.

### Medical Research Retarded by Economic Situation

Pharmaceutical research and the development of new medical compounds in this country are being delayed by current economic conditions, according to Dr. J. Mark Hiebert, vice-president of Frederick Stearns & Company Division, Sterling Drug Inc. While research is continuing, he said, the transference from laboratory to production lines of planned new items has been slowed down. "Every effort is made to give priorities to preparations demanded by doctors for immediate urgent treatments of patients seriously ill, and such cases are being met now, there are insufficient supplies of some items to provide wide-spread national distribution. This distribution problem is often misunderstood. Unable to produce fast enough to obtain national coverage, some manufacturers are building up reserves rather than allocating small amounts in discriminatory fashion, yet some may be unjustly charged with holding back for higher prices."

### Care of Juvenile Delinquents

The Welfare Council of New York City has recommended the establishment of a Children's Reception Center, under the auspices of the New York State Department of Social Welfare, to study the needs of juvenile delinquents before court commitment. This reception center would receive only delinquent children remanded by the courts for study in anticipation of commitment, and would perform the following functions: 1, to make a study of each child's problems and needs; 2, to recommend to the court the institution, public or private, to which the child should go; 3, to recommend to the court, when institutional care is not advised, other treatment as indicated, such as foster care or continued care of the child in his own home.

### National Gastroenterological Association

The annual meeting of this association will be held in New York June 19th, 20th and 21st. The scientific program will consist of five symposia and five other papers. There will be one symposium on "Carcinoma of the gastrointestinal tract" which will be presented by Dr. George T. Pack and his associates from the Memorial Hospital in New York. There will be two luncheon round-table conferences; one on "Parasitology and tropical medicine from a military and civilian standpoint" led by Dr. Z. Taylor Bercovitz, New York; and the other on "Socialized medicine" which will be led by Dr. William B. Rawls, New York. Among those who will contribute papers are: Dr. Co Tui, New York University Medical College; Dr. M. Herbert Barker, Chicago; Col. Samuel Paster, M.C., U.S. Army; Dr. Sidney A. Portis, Chicago; Dr. Stewart Wolf, New York Hospital; Dr. Martin E. Rehfuss, Philadelphia, Pa.; Dr. Max Thorek, Chicago; Dr. Frank Glenn, New York; Dr. Fred W. Rankin, Lexington, Ky.; Dr. Harry Bacon, Philadelphia, Pa.

### American Swiss Foundation for Scientific Exchange

The newly formed American Swiss Foundation for Scientific Exchange, Inc., will sponsor trips by prominent American scientists to Switzerland and arrange for a similar number of Swiss specialists to visit centers of scientific work in this country. During the year 1946 the following American scientists are invited to spend from six to eight weeks lecturing and visiting laboratories abroad: Dr. Robert C. Hockett, scientific director of the Sugar Research Foundation, Inc.; Dr. Robert R. Williams, nutrition board of the National Research Council; Dr. Tom D. Spies, Cincinnati General Hospital

and the nutritional clinic of the Hillman General Hospital, Birmingham, Ala.; Conrad C. Elvehjem, professor of biochemistry at the University of Wisconsin; Dr. O. Kraier, psysiologist at Harvard University, and Dr. C. N. H. Long, biochemist at Yale University. Dr. Tadeus Reichstein, professor of pharmacy at the University of Basle, and Dr. Leopold Ruzicka, professor of organic chemistry at the Federal Institute of Technology, Zurich, are completing a six week tour of industrial laboratories and government projects in this country. Paul Karrer, professor of organic chemistry at the University of Zurich, and P. Scheerer, professor of physics at the Federal Institute of Technology, Zurich, will make similar visits later in the year.

## Obituary

### Walter Bradford Cannon

The passing of Dr. Cannon is a great loss not only to medical science but to mankind as well, and will arouse sadness the world over. Dr. Cannon was the leading physiologist of our generation, a productive scientific investigator, an outstanding educator, an industrious communal worker, and above all a humanitarian.

As a scientist Dr. Cannon opened new avenues in the field of physiology, and his accomplishments have been extensive and important. He achieved fame at the early age of twenty-six as a result of applying bismuth in combination with x rays in gastroenterology. His scientific publications cover a wide range of subjects, including studies of the gastrointestinal tract, the physiology of nerve retes, peripheral inhibition, internal secretion, effect of emotions on bodily processes, traumatic shock and electrical phenomena of the cerebral cortex. The research which he and his collaborators conducted during more than four decades is summarized in his five classical books: *A Laboratory Course in Physiology* (1910); *The Mechanical Factors of Digestion* (1911); *Bodily Changes in Pain, Hunger, Fear and Rage* (1915); *Traumatic Shock* (1923); *The Wisdom of the Body,* and (with A. Rosenblueth) *Autonomic Neuroaffector System.*

Dr. Cannon was an original thinker with a wide vision, and he did pioneer work of utmost importance in his specialty. He was the first to use bismuth meal in animals in an opaque medium for the study of gastrointestinal movements under the roentgen rays. His first report of the use of bismuth subnitrate was published in *Science* in June, 1897, and more comprehensive scientific papers on the movements of the stomach in swallowing appeared within a year in *The American Journal of Physiology.* They are classic articles.

Dr. Cannon's study of the influence of emotions on the body is also of particular value, for it shows clearly the reality of bodily disturbances resulting from great excitement, distress and even worries. He demonstrated that emotional excitement is accompanied by increased secretion of adrenalin and other bodily changes (1915). He also showed that stomach movements continue unchanged after the removal of the influence of the vagus and splanchnic nerves (1906). He was the first to describe a tonic contraction ring in the right half of the transverse colon known as Cannon's ring.

Dr. Cannon reported observations made by him and other investigators that traumatic shock is due to reduction of circulating blood. His experiments on animals totally deprived of their sympathetic nervous system led to the concept that this system serves to maintain steady states in the blood system. Discovery of sympathin and the enunciation of a law that denervated structures become sensitized to circulating chemical agents are among his other achievements.

As a teacher, Dr. Cannon was inspiring and effective. His cordial relations with his pupils and collaborators aroused affection and devotion. Many of his pupils are now leading physiologists throughout the world.

Dr. Cannon came to be internationally recognized as a scientist who advanced the knowledge of medicine. A great man in various aspects of physiology, his talents were diverse and outstanding, his character rich in virtues and his personality charming and impressive. He had, besides science, many interests in various fields of human activity. His career may serve as an example of the capacities of a great man and scientist. He did not limit his work to scientific research and experimentation, but also dedicated his interests and efforts to social advancement and the moral interpretation of the universe. His magnanimity was demonstrated in his uncompromising adherence to ideals of ultimate goodness, righteousness and charity.

He was an industrious researcher, teacher, author and communal leader. Even after he retired from Harvard on account of reaching the age limit, he continued to teach physiology at a New York University, and he carried on his efforts for the benefit of humanity until his last days.

He possessed a brilliant mind also in political affairs. In 1936, when the Spanish Civil War raged, he was among the first to realize that it was the beginning of a world struggle between fascism and freedom. He was also among the first in this country to warn that Mussolini and Hitler were helping Spain as a testing ground for the supremacy of dictatorship over democracy. He demonstrated a prophetic vision in the political status of this dark epoch. Dr. Cannon's aid in the American movement for the support of the Republican cause in Spain, his interests in scientists and political progress in other countries, particularly in Soviet Russia, and his deep concern and aid in war relief and future development of China, classify him as one of the greatest scientists of our time.

Born in Prairie du Chien, Wisconsin, on October 19, 1871, he graduated in medicine at Harvard University in 1900, and served as professor of physiology at his Alma Mater from 1906 to 1942. He was Croonian lecturer at the Royal Society of London (1918), exchange professor at the Sor-

bonne École de Médecine in Paris (1930), Linacre lecturer at Cambridge (1930) and visiting professor at Peiping Union Medical School in China (1935). In recognition of his great accomplishments he received many honorary degrees, a gold medal, and elections to high positions in American and European scientific institutions and organizations. He died in Franklin, New Hampshire, on October 1, 1945.

Dr. Cannon will be forever remembered as a distinguished figure in medicine, as a propounder of freedom of thought and action, and as a great humanitarian. Those of us who were so fortunate as to be associated with him love and revere him. Dr. Cannon is no longer with us, but his name and his noble work are inscribed in the annals of the history of medicine along with those of Gabriel Valentin, Hugo Kronecker and Henry P. Bowditch.

Samuel R. Kagan
Roxbury, Mass.

## Sir James Berry

Sir James Berry, B.S., F.R.C.S., D.C.L., died in Roehampton, England on March 17th. He was a remarkable man and had a remarkable career. He was born in Kingston, Ontario, Canada, in February 1860, the eldest son of Edward Berry, solicitor and ship owner, was educated at Whitgift School, Croydon, and received his medical training at St. Bartholomew's Hospital, London. In 1885 he was elected a Fellow of the Royal College of Surgeons and in the same year received the degree of B.S. at the London University, gaining a university scholarship and a gold medal. He became surgeon to the Alexandra Hospital for Diseases of the Hip in Bloomsbury, and he was associated throughout his career with the Royal Free Hospital, London. He also lectured to the London School of Medicine for Women which is linked with this hospital. These positions gave scope for his abounding energy and for the display of his great aptitude for teaching.

James Berry certainly fulfilléd Carlyle's definition of genius as an infinite capacity for taking pains, but he had in him that subtle farseeing intuition, a more correct definition of genius. He soon distinguished himself in general surgery with a leaning towards plastic work and afterwards to the operative treatment of goiter. He was a pioneer in the nineties in Britain in this operation in which he became an acknowledged master. He was a conservative operator and set his face against fashions in operating. Adventurous when necessary, while his technique was very good, but never adventurous if he could not see his way clearly to his desired end. He measured surgery and its progress, not by the facility by which operations could be done, but the patient's welfare, that is, by their life-saving and pain-sparing value. He was a surgeon of the first rank and a pioneer in his specialty, a distinguished archeologist and antiquarian and a linguist. When a young man he voyaged around the world and jotted down his impressions of the lands he visited, especially of Australia and New Zealand, then but little explored. He was a careful and accurate writer. He wrote on travel, history and archeology and of course, on medicine. In 1901, he wrote *Diseases of the Thyroid Gland and their Surgical Treatment,* in 1904, *Manual of Surgical Diagnosis* and in 1912 with T. Percy Legg a work on *Hare Lip and Cleft Palate.* Sir Henry Butlin's *Operative Surgery of Malignant Diseases* published in 1900 was written with the cooperation of Sir James Berry. He and his first wife, Frances May Dickinson, M.D., were jointly head of the Anglo-Serbian unit in Serbia, 1915-16, and he was also medical officer of the British Red Cross Unit to the Yugoslav Army at Odessa, 1916-17. Sir James and his wife used to make bicycle tours in Europe and in the Near East and to his knowledge of French, German and Serbian, he added a fairly competent knowledge of Magyar, while later he picked up some Russian. The 1914-18 war saw his wife and colleagues from the Royal Free Hospital in Eastern Europe. He had organized a Red Cross Unit. A hospital was established. After some good work, varied by vicissitudes the hospital fell into the hands of the Hungarians, but the staff and nurses were treated as guests and in 1916 and 1917 Berry was allowed to serve as the head of a British Red Cross Unit in Rumania and Russia. He was made an officer of the Star of Rumania and was decorated with the orders of St. Sava of Serbia and St. Anne of Russia. He was knighted in 1925. He was president of the Medical Society of London in 1921-2 and president of the Royal Society of Medicine in 1926-8. In 1938 he published *A Cromwellian Major General,* written in conjunction with a cousin, Lee of Oxford. Sir James Berry was a singularly modest man while his modesty was not a pose. All through life he was handicapped by physical disabilities, but he did not allow these to stand in the way of his progress but rather spurred him on to further efforts.

C. A. Clouting,
Norfolk, England

* * *

On March 17, 1946, there passed away in England one of the great men of our times. Sir James Berry was not only an accomplished surgeon but an outstanding teacher. He was an example of the overcoming of almost hopeless handicaps. When a child he had infantile paralysis and throughout his life was obliged to wear iron braces on his legs. By perseverance and great ability, however, he became one of the foremost goiter and plastic surgeons of the world.

Early in my career, when doing postgraduate work abroad, I came in close touch with him and Lady Berry, who was Dr. Dickinson, an expert anesthetist. Their home was open to many of us. We were welcome at the clinics of Sir James and at his office on Harley Street. Years later, I visited him in his country home in the suburbs of London, and found the same indefatigable leader. I prized his friendship and have been inspired by his attainments, overcoming so many difficulties. He was a heroic as well as a great man.

William Seaman Bainbridge
New York, N. Y.

# Doctors' Letters

SOLOMON R. KAGAN, M.D.
Roxbury, Mass.

(*Continued from page 238*)

**From Dr. Albert Allemann to Dr. Solomon R. Kagan**

Takoma Park, Md.
Aug. 24, 1938.

My dear Doctor Kagan:

I have read your Life of Dr. Garrison carefully. I am astonished at the immense amount of labor you had to do in preparing this work. Collecting all the material, reading hundreds of MSS. and letters, frequently written in a rapid and almost illegible hand, is a task that few men can appreciate. It was surely a labor of love on your part.

It is not an easy thing to write a life of a man like Garrison. He was an office man, all his life given to his studies. His life was not stormy and eventful like that of a general, statesman, traveller, etc. As Spinoza's life was his work, so was Garrison's life his work. The two men had so much in common; the same mathematical genius, the same penetrating, analytical mind, the same modesty, the same shyness, the same quiet, retiring life. To undertake to write the biography of such a man as Garrison is a real problem and, in my opinion, you have splendidly solved it. You have solved it by the clever arrangement of the subject matter before you.

First, the general facts of his life, then his work as a medical historian, then his work as a biographer, his biographies of John Shaw Billings, McCaw, Welch, Osler, and so on. (Here I would have also mentioned his great monograph on the famous American mathematical physicist, Willard Gibbs, though you have briefly mentioned it elsewhere. This work took Garrison a lot of time and study, and he was proud of it).

Then you describe Garrison as a man, his habits, likes and dislikes, and finally his letters. These letters are interesting and most valuable for the student of medical history of future times. The medical profession owes you thanks for the publication of these letters.

You have accomplished a great and meritorious work. It was a difficult task. It is easy to criticize but to do it better is another matter. I think it will probably remain the only biography of Dr. Garrison in book form. I am sure if Garrison could come back to this dreary world he would be proud of your work.

And now, doctor, I want to tell you that I read the letters only to page 101 and I noticed a number of errors and made a list of them which I send you on a separate sheet. Of course I shall go through all the letters, but if you think such corrections are no longer of any use to you, I shall read the letters without them. I am very sorry that you did not send me the proof sheets. I would have gladly gone over them without any charge to you, of course.

The reason why I send you this letter now is that it would have taken several days more to finish the letters (I am old and work only four to five hours a day). I thought you expected my views on your work as early as possible, so I have sent this letter. Please tell me what you think of it.

In a later letter I shall explain the obscure words of Garrison on pages 47 and 48 for your own private information. But now I will close. Please, accept my sincere thanks for your book and my hearty congratulations.

Yours devotedly,
Albert Allemann

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**From Dr. Fielding Garrison to Dr. Victor Robinson**

Washington, D. C.
May 15, 1919.

My dear Doctor Robinson:

Your new book has just reached me, and I want to thank you very much for remembering me. I have only had the opportunity to turn over the pages, but it looks most interesting and I am promising myself a rare treat when I come to read it tonight. With the piquant chapter on the Reign of King Mike I am already familiar.

It seems to me that you have opened out a promising field in this book. All agree that the history of medicine, in the future, will have to be monographed in episodes, much as the history of the European War is treated by its present historians, on account of the complexity of the subject. I can see that you have covered your own ground thoroughly, very much as Theodore Dreiser has handled the Yerkes material in *The Titan*. There are, or probably will be, a good many episodes in American medicine susceptible of the same kind of satirical treatment.

Glancing over your earlier pages, I will venture only upon one friendly criticism. Assuming your intention, to set off the life-work of a worthy man against the depressing, if comical, background of political corruption and vulgarity with which he had to contend, does it not vitiate a little of the effect you want to produce to couple the names of so many men of the second order with some minor discovery of theirs, e.g., where, in referring to Fitz, you say that "the investigator of the intrapleural lipomata of the mediastinum appears as a sensible economist." You are remarkably *au fait* in these matters, and in giving a format sketch of a man, we like to chalk these things up to his credit, as you have done in your sketches of Byford and others. But to European readers, such casual references as the above would inevitably be taken for mere American swagger, e.g., as if one were to refer to Tschaikowsky as the composer of the A minor Trio or to Cornelius as the composer of *Ein Ton*, when these things are mere filigree-work, the summation of which makes the man's general reputation. It is merely because you are young and have your future before you, instead of behind you, that I venture to make this point. Fitz, a pathologist of about the rank of Recklinghausen or Vulpian, has to be judged by his total production, and most of these minor American discoveries, if we make too much of them, dwindle by comparison with similar feats performed by hundreds of European physicians who are seldom mentioned, except incidentally and in relation to a specialty. In this connection, it may amuse you to know that I have been frequently reproached by physicians in strange places, e.g., in Mexico or Valparaiso or Galway, because I have not paragraphed the names of local celebrities who turn out to be nothing more than good average practitioners. Bernard Shaw's chal-

lenge "What's he done?" always comes to mind on such occasions.

With best regards,

Very sincerely yours,

F. H. Garrison

* * *

Washington, D. C.
January 3, 1921.

Dear Doctor Robinson:

Thank you very much for the Baker number, which is very charming, and I congratulate you once more on the effective manner in which you have handled the whole matter. I am grateful to you for making the changes I recommended, not because I care about such things, but because I once had an epistolary controversy on my hands about certain biographical details about to go into print and which I felt sure would be displeasing to the members of the dead man's family. Family feeling about a father or a husband is ofttimes touchy and peculiar. I am sending the number to Col. Baker, asking him to write to you and give his consent to the printing of another article of Dr. Baker's which I have recently acquired in MS., and I am sending you a little book from his library—a trifle, but the bookplate might be worth reproducing—and one or two autographed reprints which you might like to keep as a memento. You have given a superb reproduction of the photo, bringing out the serene and meditative cast of Baker's features. As I am sending this copy to the son, will you send me another? There was still another MS. of Baker's, full of bold free-thinking, which his widow (now dead) was anxious to have published, but which I fear has been suppressed through ecclesiastical influences. Please regard this statement, however, as private and confidential. If it is still in existence and I can get hold of it, I will send it to you for publication.

Wishing you a Happy New Year, I am,

Sincerely yours,

F. H. Garrison

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**From Dr. Hugh H. Young to Dr. Solomon R. Kagan**

November 18, 1940

My dear Dr. Kagan:

It gives me pleasure to accept your proposition. Under separate cover I am sending you my autobiography in return for the two books which you are to send me.

You ask for items of my recollections of Welch and Osler. I respectfully refer you to the autobiography in which you will find a lot of references to these worthies and some stories about them which have never been published.

In regard to the lines pertaining to me which you propose to insert, I am glad to take advantage of your suggestion to modify them somewhat. Perhaps the following will be agreeable or at least suggestive:

He, Halsted, appointed the young Dr. Hugh H. Young head of the Department of Urology at the Johns Hopkins Hospital. Dr. Young won this position as a result of researches which he continued actively afterward. These and clinical inventions and advances have led to the publication of more than three hundred papers and six books.

I shall look forward to reading your book.

Sincerely yours,

Hugh H. Young

**From Dr. Joseph B. DeLee to Dr. Solomon R. Kagan**

Chicago
Otocber 6, 1938

Dear Dr. Kagan:

In reference to your letter of August 30th, which I found on my desk upon my return from abroad, I would like to make the following suggestions.

You ask if I was the founder of the Chicago Lying-in Hospital. Yes.

Were the Jewish women of Chicago the main contributors? The Jewish people were the first contributors and for quite a few years mainly supported the institution until I could get gentile help.

The main collaborator with me, after the first founding of the institution, was Mr. Frederic A. Delano, who is the uncle of our President.

I am sending you, with this mail, a brief history of the institution and of the Chicago Maternity Center from which you can get a great deal more information.

Will you please make a note that there are seven editions of my big book called *The Principles and Practice of Obstetrics.*

The book on *Obstetrics for Nurses* is now in its eleventh edition.

Please make a correction—"one of the founders of the American College of Surgeons", not "the founder."

I think Dr. J. P. Greenhill should have mention in the next edition of your book and I would like also to recommend to you that Dr. M. Edward Davis be included. Both of these men have done a great deal for obstetrics and gynecology in the United States.

Yours very truly, J. B. DeLee

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**From Dr. David Riesman to Dr. Solomon R. Kagan**

Philadelphia, Pa.
June 8, 1933

Dear Dr. Kagan:

Under separate cover I am sending you a number of my nonmedical or historical articles. I have written several others the supply of which is exhausted. If you would like to have the references to these articles, I shall be glad to send them to you.

Very truly yours,

David Riesman

* * *

December 20, 1933.

Dear Dr. Kagan:

Pardon the delay in answering your letter. I had an address to prepare to read in New York which is now behind me, also come other things that have prevented me from attending to correspondence in my usual manner.

With regard to your questions I would answer them as follows:

1. Contributions to Medicine in America by Jews.
2. I am unable to ascertain the name of Dr. J. M. DaCosta's father. No biography that I have consulted, and I have looked into several, gave the father's name.
3. Dr. Samuel David Gross was not of Jewish descent. He came of a German pietist family which immigrated to Pennsylvania in the eighteenth century.
4. As soon as possible I shall comply with your request to send you a list of my scientific articles.

Sincerely yours,

David Reisman

(*To be continued*)

# Book Reviews

## Neurology

*Diseases of the Nervous System.* By W. RUSSELL BRAIN, M.D., D.M., (Oxon), F.R.C.P., (London), physician with charge of out-patients to the London Hospital, etc. Second edition, third impression. Illustrated. London and New York: Oxford University Press, 1945. Pp. 950. Price $9.25.

The author has taken the entire field of anatomy, physiology and related subjects for his province. This is assumed from the list of appointments which he holds in various institutions in London, and they include an infant's hospital as well as an ophthalmic hospital. From the varied experience thus garnered, Dr. Brain has written a good book, the first edition of which came out in 1933. The enormous additions to neurology and adjacent fields are making it difficult to choose subjects which are a *must,* since all seem so important. For example, the author omits etiology and treatment of the neuroses save in connection with diagnosis, but he has added a new chapter on "The Psychological Manifestations of Organic Nervous Disease." The "recent advances" which receive discussion are electroencephalography, vitamin deficiencies, neurotropic viruses, and transmission of nerve impulses at the myoneural junction. Endocrine and trophic disorders which are not strictly neurological have been omitted. However, illustrations of the commoner nervous disorders including x ray studies are included in this edition. One gets the impression that the author does not place much dependence on surgery in the treatment of diseases of the brain and spinal cord. Twelve lines are devoted to surgery of the gasserian ganglion, for example, but not much more is said of alcohol injections. This may be "the trend" at this time. However, he seems not to favor Sluder's anesthesia in neuralgia of the sphenopalatine ganglion which he finds difficult to differentiate from sinus pain, and he speaks of "uncertain results" of these alcoholic injections. This is quite at variance with experience in the United States. We regard the method as extremely simple in performance and well worthy of trial. Moreover, differentiation from "sinus pains" is not difficult as a rule if one avoids a spurious diagnosis of sinusitis when allergy may be the chief cause for distress. On the whole, the book is worthy of a place as "consultant" when difficult problems arise.

* * *

*Diseases of the Nervous System.* Described for Practitioners and Students. By F. M. R. WALSHE, M.D., D.Sc., F.R.C.P. (Lond.), O.B.E. Fourth edition. Illustrated. Baltimore: The Williams and Wilkins Co., 1945. Pp. 360. Price $4.50.

Dr. Walshe is physician to the Neurological Department of University College Hospital, London, and has various other hospital connections. He is convinced that the tendency to pass the patient over to the laboratory is all too prevalent; for in most cases the physician, after a careful study and proper physical examination, can make a working diagnosis. One should concern oneself as much with the life history of the illness as with the anatomical seat of the condition. However, the author emphasizes anatomy and physiology of the nervous system as paramount and gently chides the fainthearted against overstressing the complexities of neurology. He is not much in favor of "the newer" which so often are forsaken for the tried and tested older concepts. Too frequently there is overenthusiasm and uncritical acceptance of new diagnostic methods and a substitution of them for clinical observation and judgment. An example is the electroencephalogram which is valuable in certain instances, but not an infallible test for epilepsy as some seem to think.

The chapters on peripheral nerve lesions, zoster, cervical rib, and sciatica have been recast and the concept of psychosomatic factors in disease have been revised. This is an abridged and useful handbook which deals with the commoner nervous disorders in a sane and practical manner. The author's style is simple, direct and engaging.

## Neurosurgery

*Surgical Treatment of the Nervous System.* Supervising editor, FREDERIC W. BANCROFT, A.B., M.D., F.A.C.S., associate clinical professor of surgery, Columbia University; associate editor, COBB PILCHER, M.D., F.A.C.S., associate professor of surgery, Vanderbilt University School of Medicine. With 293 illustrations and five color plates. Philadelphia, London and Montreal: J. B. Lippincott Co., 1946. Pp. 534. Price $18.00.

Seventeen surgeons have brought together into this heavy volume (it weighs four pounds) the experience of years. The dedication is "To the memory of Harvey Cushing" whose invisible hand manifests its omnipresent influence throughout. Perhaps no one will dispute the demand for highly specialized technic and a diversified fund of knowledge and experience in neurosurgery and yet the aim is to offer to the general surgeon who is faced by a sudden demand for surgery of the brain or nerves, as much as he can get from any text anywhere, supplemented by diagrams, photographs, and figures. The color plates are excellent, but are rather hard to find, scattered as they are. An index of these with appropriate legends will, no doubt, be provided in a subsequent edition.

Dr. Pilcher, in chapter 1, sets forth the "General Principles of Neurological Technique." He uses local anesthesia with 0.5 percent procaine plus three minims of epinephrine to the ounce in most cases. For general anesthesia, he prefers ether by endotracheal inhalation. Pentothal sodium, widely and successfully used by many surgeons, receives only passing notice, but avertin is mentioned chiefly for its "has not" qualities.

To cover cranial bone defects, tantalum is the material of choice because it is "inert", can be readily molded and fitted, and is well tolerated by the tissues. The technic of using it is fully described.

The chapter (14) on surgery of the cranial nerves is written by Drs. Peet and Echols. Concerning nerve grafting for facial paralysis, the authors say that it "has not found wide favor" because it "is a physiologically poor procedure in any part of the body." Anastomosis with the eleventh or twelfth cranials is preferred. However, they admit that

trial grafting may be first carried out, and if it fails anastomosis can then be done. In format, paper, etc., the publishers have done a masterpiece.

## Surgical Pathology

*Pathology in Surgery.* By N. CHANDLER FOOT, M.D., professor of surgical pathology, Cornell University Medical College. With 368 illustrations in black and white and twenty subjects in full color on ten plates. Philadelphia, London and Montreal: J. B. Lippincott Co., 1945. Pp. 511. Price $10.00.

This book is, in essence, a report on segments of organs removed at operation. It is an expansion of the third year course of lectures in surgical pathology given at Cornell Medical College. Four general headings are basic in these studies: A. Trauma; B. Developmental Anomalies; C. Inflammatory Lesions; D. Tumors. Tissue taken from *injured* parts requires little more than a brief outline of the injury sustained. The pathologist will then know what to look for. Where *embryological* malformations are found, such as pilonidal or bronchogenic cysts, supernumerary ear buds or digits, esophageal or other diverticula, etc., a history of the lesion and the immediate reason for its removal (malignancy, pressure symptoms) may help the pathologist to form his conclusions. All *inflammatory* tissues require special study, and one must know from what organ they are derived—gallbladder, appendix, lymphatic tissue. These data are highly important because of the eternal diagnostic triad: Is it syphilitic, tuberculous or malignant? In tumors, the same holds true, especially if the specimen be removed from the larynx, for example, where the diagnosis between papilloma and actual cell anarchy may be a matter of life or death. Another important tissue which is frequently sent in for microscopic diagnosis is skin. The dermatologist wishes to know much more than his eye can tell him, and, therefore, leans heavily on the laboratory diagnostician.

This book attempts a sort of liaison between student, intern, surgeon and microscopist. It is essentially pathology of the living, if that term may be accepted as adequate, and is even more important than the pathology usually associated with the "dead house"; for, with an accurate, correct diagnosis, there may be yet time to save a life or shorten the course of a condition amenable to surgery. The illustrations are graphic and excellent in every detail.

## Stomatology

*Oral Medicine.* Diagnosis and Treatment. By LESTER W. BURKET, D.D.S., M.D., professor of oral medicine. Graduate School of Medicine, University of Pennsylvania. With a section on oral aspects of aviation medicine by Major ALVIN GOLDHUSH, D.D.S., A.U.S. With 350 illustrations, including sixty in color on ten plates. Philadelphia, London, and Montreal: J. B. Lippincott Co., 1946. Pp. 674. Price $12.00.

What the author calls "dental chair medicine" goes far beyond the ordinarily considered province of the dentist, and this book proves that "dentistry is a specialty of medicine" without even trying to do so. The mouth cavity is of the greatest importance in the body economy; for here it is that such diseases as scarlet fever, measles, diphtheria and many other conditions are first to be found. Syphilis, tuberculosis and cancer often appear on the tongue, cheek mucous membrane, palate, tonsils and gums. Tuberculosis of the mouth is rare, but sputum alive with Bacillus tuberculosis is a constant danger on its way from lung to the outside world. Since the dentist is often the first to be consulted about such conditions, it is highly important that he recognize them promptly, but it is rather too much to expect of him unless he has studied a book like this and has profited from it by becoming more acute in his observations. Teeth and gums are important, to be sure, but mere caries is insignificant in comparison with epuli or gumma. Focal infection from abscessed teeth is something else again, and is highly related to the general body economy and to the diagnosis of "arthritis" and many other disorders. Its detection is common enough, but how about *lichen planus* or *pemphigus?* Rhinolaryngologists who ought to be familiar with such things often fail to realize the importance of a complete clinical knowledge of appearances in the mouth. It is hard to think of any field of practice in which stomatology is not involved. Old-fashioned doctors always looked at the tongue and prescribed a cathartic, but were not greatly concerned with other conditions in the mouth. From the viewpoint of diagnosis of general diseases from mouth pathology, the color atlas in this book will awaken one to a new sense of his responsibilities. Here is a volume which should be studied and restudied by all of us.

## Physiology

*Howell's Textbook of Physiology.* Edited by JOHN F. FULTON, M.D., Sterling Professor of Physiology, Yale University School of Medicine. With the collaboration of ten various authors. Fifteenth edition. Illustrated. Philadelphia and London: W. B. Saunders Co., 1946. Pp. 1,304. Price $8.00.

The first "copyright" of this book was dated 1905. Since then, new editions have appeared every two or three years. In his original preface, Dr. Howell stated that "It is doubtless the art of presentation that makes a textbook successful or unsuccessful." He further recognized that physiological "facts" are subject to change and are largely dependent upon new knowledge in other fields, particularly in organic chemistry and physics. For example, the authors refer to "electrophysiology" in connection with the excitability and conductivity of cardiac muscle, a concept which aids in interpretation of the electrocardiogram. It is a little surprising to note that "the physiology of sex has become a precise science since Dr. Howell's last revision." Certainly the *peculiarities* of sex behavior are far from precise or even understandable from a medicopsychological viewpoint.

Chapter 6, on respiration, deals with pulmonary ventilation, exchange of gases, and the therapeutic use of oxygen. During World War II, observations on fliers before and after high altitude flying gave point to some new phases of atmospheric pressures on the human economy, particularly anoxia. There were also some new data on the neural mechanism and its control of respiration.

Chapter 52 which deals with nutrition is timely,

especially in respect to deficiency disorders. The subject has outgrown the laboratory and clinic and has become a matter for public health officials, teachers, economists and those especially trained in production, processing, preparation and distribution of foods. "One fact is clear: most of the money paid for popularly advertised vitamin preparations is wasted because the body can neither use nor store excess vitamins and is therefore obliged to excrete them." It remains to be shown whether this overdosing is harmful.

## Geriatrics

*The Care of the Aged.* By MALFORD W. THEWLIS, M.D., attending specialist, general medicine, U.S. Public Health Hospitals, New York. Fifth edition. Thoroughly revised. With sixty-five illustrations. St. Louis: The C. V. Mosby Co., 1946. Pp. 500. Price $8.00.

Because the span of life is being continually widened, interest in old age and its diseases is also widening. It is a fitting tribute that Dr. Thewlis has dedicated his excellent book "To the Memory of I. L. Nascher, M.D., Father of Geriatrics." Dr. Nascher began to publish special articles in his chosen field in 1914, but not much attention was paid to geriatrics as a specialty of medicine until a decade ago, although Dr. Thewlis's first book came out in 1919. The fact that the fourth edition of this work has been exhausted between 1942 and 1946 emphasizes its importance as a contribution to the subject. Six authors have helped in compiling this text which contains several alterations and added material. An item of note is "the prevention of coronary thrombosis in physicians." Slow down after fifty is the advice given. Take "emergencies" more leisurely. The doctor with a latent coronary thrombosis may die before he reaches that patient who "buries" all of his doctors. Encourage office care instead of "outside visits", let the younger men take the tough ones. Relax, take off all the strain one can. Good advice, every word of it, but will it be heeded? Dying in harness is the ancient *exitus letalis* for doctors, and is still adhered to by most of us. Some say it is "the easy way out".

This book is divided into eight parts, from "general considerations" to "special topics". It is general medicine to the last detail, with some special information concerning certain peculiarities of the aging patient. Prevention holds here as elsewhere, but in many cases, the patient has driven too hard and too long to prevent the inevitable results of "wear and tear". Then the "patching process" begins until the entire structure has weakened. The geriatrist can accomplish much, however, by making and keeping his aged patients comfortable. That is the apparent aim of this book. It succeeds notably.

## Founder of Homeopathy

*Hahnemann.* The Adventurous Career of a Medical Rebel. By MARTIN GUMPERT. New York: L. B. Fischer Publishing Corp., 1945. Pp. 251. Price $3.00.

Samuel Christian Friedrich Hahnemann, founder of homeopathy, was born in Germany in 1755. He died in 1843 at the age of eighty-eight! It is quite fitting that one of the best biographies of this strange man should be written by a *landsman.* Dr. Gumpert was born in Berlin, studied in that famous university and in Heidelberg, then came to New York to set up practice and become an American citizen. The blurb on the cover of this book tells us that he is medical adviser to the magazine *Time,* and has written several books dealing with science, the Red Cross, Hitler, and the advantage of keeping younger than you are. He is protagonist for one who with all his oddities had a certain *raison d'etre.* As a boy, Hahnemann had witnessed the barbarisms of eighteenth century doctors, which included bloodletting, nostrums, foul-tasting medicine, operations sans anesthesia, and general quackery. He was a reformer, and regarded himself as a "savior" of the people's health. However unacceptable his theories, he certainly did something to awaken an interest in the kind of medicine that ought to have been scientific instead of exorcism of devils and humours. He was a half-comic, half-tragic figure —the bizarre, grotesque expositor of a new method of healing, the *similia similibus curantur.* The doses he prescribed were sweet and so infinitesimal that they could do no harm. With them went a good deal of the psychology of selling, and a maximum of credulity on the part of the patient. It worked well and the medical rebel became famous. In these days he would be classified, probably as "N-P", a psychoneurotic with good intentions. Aside from his medical ministrations, not the least interesting is the story of his late love affair with a young French girl who came to Saxony dressed as a boy (not remarkable in *these* days), whose physical prowess and masculine affectations shocked the natives. She became Frau Hahnemann and also secretary, butler, mistress and a sort of female major domo. Difference in age seems not to have mattered—she was fifty years younger, but we are not told of any offspring! How come? There should have been several to make a good story better. Dr. Gumpert has performed a literary and historical service in this excursion into the biography of one of the world's fearless if cantankerous "researchers" into the mysteries of disease, pain and death.

## Child Analysis

*Psychoanalytic Study of the Child.* An annual publication. Volume I. Editorial board, United States: Otto Fenichel, M.D., Phyllis Greenacre, M.D., Heinz Hartmann, M.D., Edith B. Jackson, M.D., Ernst Kris, Ph.D., Lawrence S. Kubie, M.D., Bertram D. Lewin, M.D., Marian C. Putnam, M.D., and Rene A. Spitz, M.D. Great Britain: Anna Freud, Willie Hoffer, M.D., Edward Glover, M.D. Editorial Assistant: Sylvia Brody. New York: International Universities Press, 1945. Pp. 423. Price.

The contribution of psychoanalysis to the study of the child covers many areas. In therapy the range extends from child analysis to child guidance and group work; in theory, from the basic problems of genetic psychology to those concerned with the interrelation of culture and the upbringing of the child. While many psychiatric techniques and concepts upon which psychologists and educators rely bear the imprint of psychoanalytic thought, contributions to this Annual center on psychoanalytic hypotheses. Volume I contains Genetic Problems, Problems of Child Development, Volume II and Volume III Guidance Work and Volume IV, Problems of Education.

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JUNE 1946

## Medicolegal Notes

### "Sound Health" Proof of Representation

The New York Appellate Division held, Skripko vs. John Hancock Mut. Life Ins. Co., 292 N.Y.S. 76, that the plaintiff in an action by an administrator of insured on two industrial life policies had failed to sustain the burden of showing, as required by the policies, that the insured was in good health when the policies were issued, and had not attended a hospital, or been attended by a physician, within two years before the policies were issued, for any serious disease or complaint.

It also held that the submission of an affidavit was not in compliance with the terms of the policies relating to proofs of claim. A similar judgment was rendered in Shumowat vs. Metropolitan Life Ins. Co., 292 N.Y.S. 78, where an affidavit purporting to be a proof of death but was only a notice of death was held insufficient. In the first case judgment for plaintiff was reversed and the complaint dismissed. In the second judgment for plaintiff was dismissed and a new trial ordered.

The Skripko case was cited in Schneider vs. John Hancock Mut. Life Ins. Co., (1940) 250 App. Div. 983, 20 N.Y.S. 2d 589, 590, an action on a life policy where it was held that the plaintiff had the burden of proving that the insured was in sound health on the effective date of the policies. The attending physician's affidavit submitted by plaintiff as part of her proofs of death disclosed that the insured's health was impaired on December 9th, and that from December 10th he was under treatment for the disease which caused his death on December 17th. "Of course, it is not conclusive against her," the court said, "but is binding until corrected or explained." Evidence of the insured's physical appearance prior to the date of the policies was held insufficient to overcome the proof furnished by the physician's affidavit.

### Bequest to Hospital to be Chosen by Executors Upheld as for Charitable Purposes

The distributee of a will sought in the Surrogate's Court, New York County, New York, the construction thereof, challenging the validity of a clause disposing of the residue of the estate to "such institutions and hospitals" as her executors might deem advisable. Surrogate Delehanty held that the whole tenor of the deceased's will clearly indicated that she intended to devote the residue to charity, and added that a layman reading the will would have no difficulty in recognizing the exclusively charitable purpose behind the words "institutions and hospitals".

"Neither reason nor authority requires the court to hold that the word 'institutions' includes private corporations", the Surrogate said. "On the contrary, it is held primarily to mean public institutions." In the matter of Frasch's will, 245, N.Y. 174, 184, 156 N.E. 656, 659, it was said, "The meaning of the word 'institutions' is not so fixed that necessarily it must be held to include corporations organized for private as well as public purposes. Indeed, when not used in context indicating a broader definition it may well be held to denote primarily organizations created for a public purpose".

The word "hospital", at least in its popular usage, ordinarily denotes a charitable institution, the court says. "It is only where income may be used for the profit of the owners that a hospital corporation ceases to be a charity. 'It is not charity to aid a business enterprise. But the fact that fees are charged is not controlling . . . Most of our universities and hospitals would be excluded by such a text, yet *universities and hospitals are unquestionably public charities.* What controls is not the receipt of income, but its purpose. Income added to the endowment helps to make it possible for the work to go on. It is only when income may be applied to the profit of the founders that business has a beginning and charity an end'. Butterworth vs. Keeler, 219 N. Y. 446, 449, 114 N.E. 803, 804 (emphasis supplied). The modern trend of judicial decision is in favor of upholding the validity of charitable gifts. (citations omitted)."

It was therefore held that the deceased by the clause in question made a valid gift to public and charitable institutions. In re Cohen's Estate, 58 N.Y.S. 2d 924.

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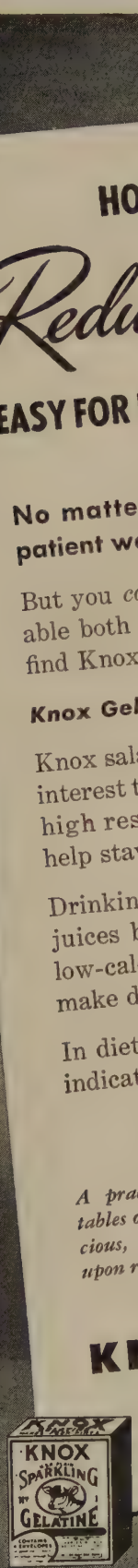

## Functions of Plasma Proteins

Dr. Bernard D. Davis, senior assistant surgeon, Tuberculosis Control Division, U.S. Public Health Service, Washington, D.C., working at the Rockefeller Institute for Medical Research, read before the Biological Division of the American Chemical Society at Atlantic City, N. J., a paper entitled "The effect of binding to plasma proteins on the distribution of substances in the body". Dr. Davis said:

The plasma proteins are considered to have as their main function in the body the maintenance of colloid osmotic pressure, which is responsible for keeping a proper balance of water between the blood and the tissues. This is the property which has made plasma so valuable in the prevention and treatment of shock. There are other functions, however, which result from the marked capacity of the plasma proteins, particularly albumin, to combine loosely with a wide variety of small molecules. For example, when sulfanilamide is given to a patient it is found in the spinal fluid in practically the same concentration as in the blood, while other sulfonamide drugs, such as sulfathiazole, are found in much lower concentrations in the spinal fluid.

It was first thought that infections involving the spinal fluid (meningitis) should be treated only with sulfanilamide. It was later shown, however, that this distribution between spinal fluid and blood is dependent simply on the extent to which the various drugs are bound to plasma albumin, for the albumin (including the drug bound to it) does not pass freely into the spinal fluid as do such small molecules as the unbound sulfonamide.

Since the unbound, active drug is equally concentrated in the blood and spinal fluid it follows that a low relative concentration of total drug in the spinal fluid should not disqualify a drug from use in meningitis. This prediction has been verified by clinical success with sulfathiazole in this disease.

An unexpected outcome of this work was the observation that the affinity of a series of sulfonamides for albumin parallels their effectiveness against bacteria. This suggests that their inhibition of bacteria may depend on the same chemical forces as are responsible for their binding to albumin, which offers a lead in the difficult problem of the mode of action of these chemotherapeutic agents.

It has long been stressed by Bennhold in Germany, but relatively overlooked in this country, that this binding capacity of plasma proteins must be concerned with the transport of many substances in the body, whether they be normal constituents or drugs. The author suggests that the same property may lead to yet another major biological role.

Urine is formed by filtering all the small molecules from the blood in one part of the kidney (the glomeruli) and then reabsorbing the valuable constituents in another part (the tubules). This reabsorption demands the existence of a special mechanism for each of these constituents, as well as the expenditure of energy. Since compounds bound to albumin are not ultrafiltered in the kidney, the need for special resorptive mechanisms for them is spared.

Finally, albumin added to bacterial cultures has been shown by Dubos to protect the cells from a variety of toxic substances. It is reasonable to suppose that albumin would exert a similar effect in the animal body. Albumin would then have in the body the following functions: control of water distribution, transport and distribution of drugs and other small molecules, sparing of renal resorptive mechanisms and protection against toxic substances.

---

## Leprosy and its Treatment

On this continent there is some leprosy and W. L. Aycock, in an article entitled Familial Susceptibility as a Foctor in the Propagation of Leprosy in North America (*Internat. Jour. Leprosy,* April-June 1940) points out that leprosy tends to recur in certain family lines in which intermarriage is common. From his studies and the studies of others, it appears that hereditary susceptibility is a major factor in the propagation of the disease on the North American continent.

G. Muir, an authority on the treatment of leprosy, writes in *Leprosy Review* (October 1940) on some basic principles in leprosy treatment. He emphasizes that the general health of the patient profoundly affects his resistance to the disease. Potassium iodide has a specific effect in breaking down the defense mechanism of the bacilli. Massive treatment with dyes is not recommended, smaller doses do not seem to create a curative effect, while doses large enough to cause evacuation of leproma are apt to prove extremely dangerous. Dyes given in small doses over a short period to control lepra reaction are safe and of some value.

D. R. Collier in an article on the use of diphtheria toxoid in the treatment of leprosy (*Internat. Jour. Leprosy,* January-March 1941), suggests that the cause of the beneficial results from this form of treatment may be due to some antigenic factor common to both the diphtheria and leprosy bacillus, as these organisms are more closely related to each other than to the common bacteria.

Kuznezov has tried the naphthalan oil bath and records his experience with this line of treatment in *Internat. Jour. Leprosy* (Jan.-March 1941). This oil belongs to the type of heavy oils which contain no petroleum, benzine or paraffin. It sticks very firmly to the skin and cannot be washed off by water, but dissolves readily in chloroform, ether or benzene. The patient in question was immersed up to the breast in a bath and the remainder of the body was coated with oil. He was kept in the bath for fifteen minutes and then the oil was removed by a piece of wood. He then lay on a bench in the sun for fifteen minutes, after which he stayed in bed for three or four hours. He perspired profusely. Fourteen cases were thus treated and in almost all instances, successfully. G. Muir in his article referred to previously, draws attention to the intranasal treatment of leprosy and stresses the point that due attention to the nose largely diminishes the danger of the discharge of the lepræ and the spread of infection. With this end in view, three objects should be kept in mind: prevention of sepsis, removal of sepsis, if it has occurred, and the cleaning up of leproma. Lavage by nasal saline is recommended. If cases are highly septic, ten percent sodium sulphate solution may be substituted, and for local treatment cauterization is most effective.

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## Thiouracil

Winthrop Chemical Company, Inc., one of six drug companies that cooperated in the development of thiouracil, described in the *J.A.M.A.* as "effective in the management of thyrotoxicosis and possibly thyroiditis", is now marketing the drug as a prescription specialty through retail drug stores. The report on the drug published in the *J.A.M.A.* was made to the Council on Pharmacy and Chemistry, and was released by Dr. Austin Smith, secretary, who stated that the "Council warmly commends such cooperation (of the manufacturers) and urges them to show a similar spirit in other therapeutic problems of common interest."

A survey of 5,745 patients treated by 328 clinical investigators constitutes the basis of the report, which, in its conclusions, pointed out that thiouracil is "of no value and should not be used in other derangements of thyroid activity or in conditions not associated with hyperthyroidism."

Declaring more information should be secured "concerning the induction of remissions by thiouracil and the factors affecting the permanence of these remissions", the report stated that on the basis of available information, "it can be recommended only that Thiouracil will be used for preoperative treatment or for those patients for whom operation is contraindicated. "Many patients, particularly those who have received previous iodine therapy, do not respond immediately to thiouracil therapy; hence medication should be continued for at least thirty days, or for a patient to whom iodine has been administered for sixty to one hundred days, before concluding that no response to thiouracil is possible."

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### Malaria as a Military Weapon

An effort on the part of the Germans to employ malaria as a military weapon by encouraging U.S. Army soldiers to disregard malaria prevention measures was discovered in German laboratory documents captured during the last phases of the war in Europe, according to a report submitted by Major Saul Jarcho, director of the medical intelligence and health education division, preventive medicine service, Office of the Surgeon General.

The captured material, consisting of textbooks, reprints, and miscellaneous field notes, chiefly meteorological, also included a single sheet of paper on which was typewritten a short essay entitled "Italy's Malaria Belt." Based on a theory that a case of malaria, along with subsequent relapses, would keep the soldier safe in the hospital and out of harm's way, the paper warned that antimalarial drugs would upset the stomach and would also "make the strongest man impotent."

The text, Major Jarcho said, was an ingenious combination of truth and falsehood. Although malaria is by no means a harmless disease, the fatality rate in Italy was low and a soldier would be safer in a protected hospital than in the front lines. While it was true that atabrine, especially if taken on an empty stomach, was capable of producing digestive disturbances, there was no evidence that the drug produced either infertility or impotence.

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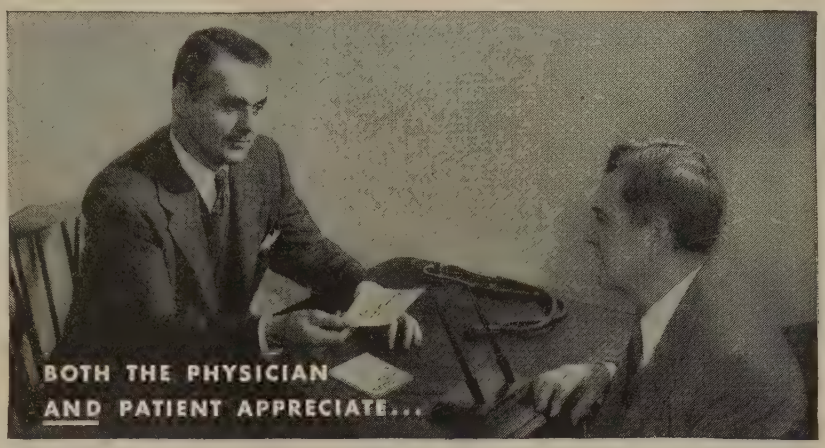
*Wagner's disease.*—Colloid milium was described by Ernest Wagner in 1866, and the disease is hence known as Wagner's disease.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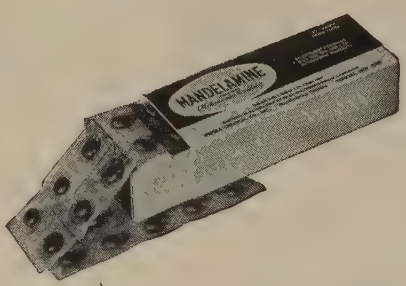


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## Tuberculosis Notes

Research in clinical tuberculosis has never been more sorely needed than now if the new drugs are to be of benefit in combating the anticipated plague of tuberculosis in Europe. Such research may be truly classified as "war medicine" since tuberculosis may be regarded as a specific pestilence of war along with malaria, typhus and dysentery. When the final summation of the toll of this war is made, it may be revealed that tuberculosis ranks with bombs and bullets in the destruction and crippling of civilian populations.—H. C. Hinshaw, M.D. and W. H. Feldman, M.D., *Amer. Rev. Tbc.*, Sept. 1944.

* * *

Among the essentials for protecting the health of young workers entering employment whether full time or, in the case of the younger age groups, part time out of school hours, are proper and sufficient food, adequate sleep, recreation and avoidance of fatigue, and periodical dental and medical examination, particularly having regard to the fact that tuberculosis is a potential danger to adolescents.—Ernest L. Stebbins, M.D., Health Commissioner, New York City.

* * *

The pre-placement examination of the worker opens what is probably the most fruitful opportunity to control the hazards of tuberculosis in industry. Here the suspected subject is either thoroughly studied and carefully placed or he is haphazardly placed into a type of work in which latent tuberculosis lesions will flourish into full activity. Here, also, is the point of entry for the frankly tuberculous undetected by a hasty and incomplete examination, or here we find the protective wall which the

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physician interposes between the workers already employed and the tuberculous individual seeking admission among them.—T. Lyle Hazlett, *Indus. Med.*, Mar. 1944.

* * *

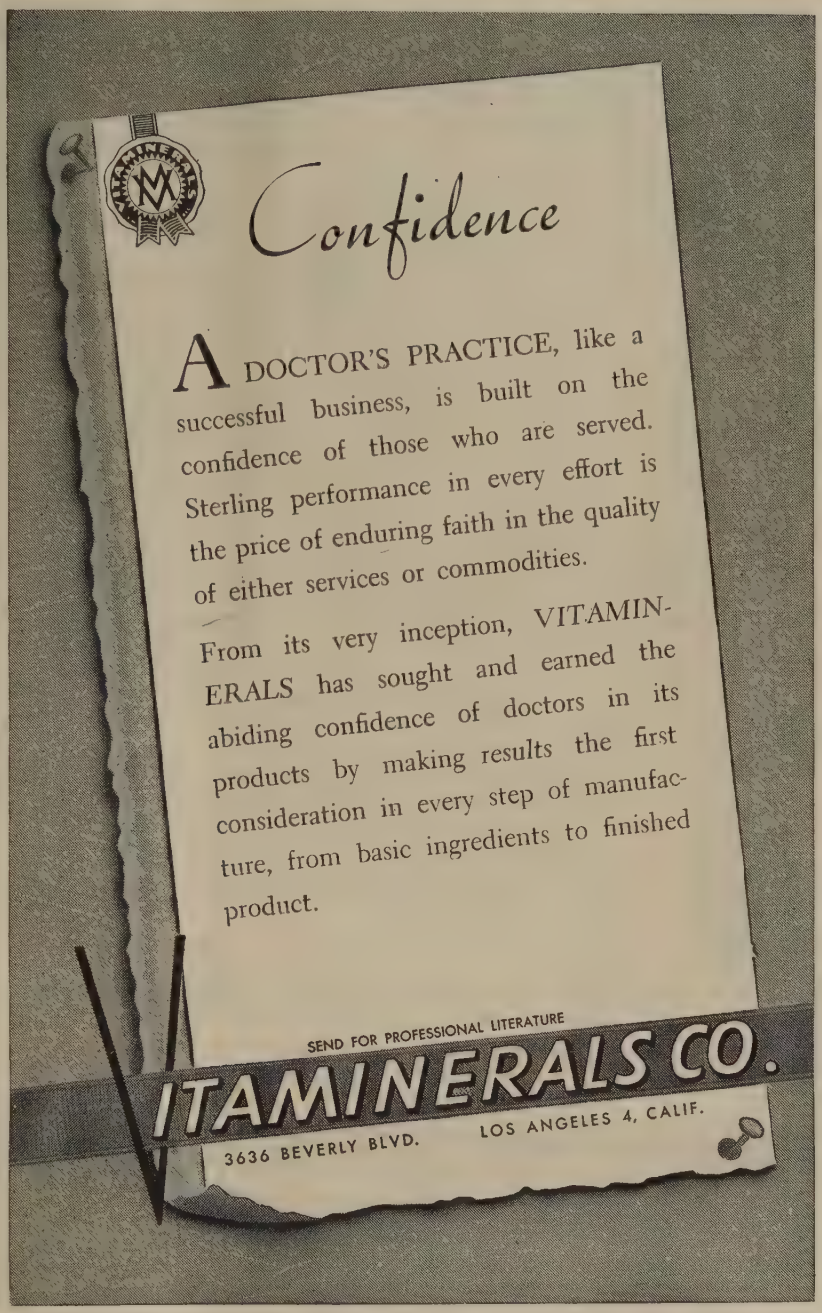
No national program for the control and eradication of tuberculosis can hope to be successful unless the opportunities for hospitalization and facilities for treatment are available equally to Negroes and whites.—Victor F. Cullen and Reuben Hoffman, *Am. Rev. Tbc.*, Jan. 1942.

---

**Infantile Paralysis Research in Toronto**

A grant of $4,538 to the University of Toronto from the National Foundation for Infantile Paralysis to continue research on the atrophy of denervated muscles was announced recently. This grant, supplementing $21,166 previously given to the university for the same purpose, is one of twenty-five totaling $565,547 recently approved by the National Foundation's board of trustees. Funds for all such grants come from contributions to the January 14-31 March of Dimes. The National Foundation receives half of the contributions, the other half being retained by local Foundation chapters for the care and treatment of infantile paralysis victims.

The University of Toronto research project is conducted in the department of physiological hygiene, under the direction of Dr. D. Y. Solandt, acting head of the department. Previous study under the same supervision and auspices investigated the biophysical aspects of muscle atrophy, fibrillation, and changes in electrical and chemical excitability. Future research under the grant will emphasize the interrelation of these phenomena and possible methods of modifying them.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### Fewer Home Accidents

A study made recently by the Metropolitan Life Insurance Company showed that the trend of mortality from home accidents among adults, that is, at ages fifteen to seventy-four, had been downward for more than a decade among both males and females. Among adult male policyholders the standardized death rate declined forty-three percent between 1933-1934 and 1943-1944; among females, the decrease was somewhat less, namely, thirty-seven percent. Analysis of the data in greater detail indicated that each of the individual age groups within the fifteen to seventy-four year range shared in the improvement. The smallest gain, however, was recorded at the oldest ages.

The mortality from home accidents among children at ages one to fourteen did not show the same consistent trend as did the death rate among adults. In general, the tendency was downward until the war years, when the rates increased sharply.

---

### Wyeth Cuts Price of Penicillin

The first benefit of Wyeth Incorporated's penicillin expansion program, announced early in 1946, has materialized in the form of a fifty percent reduction in the price of its penicillin tablets, Penioral, which became effective on April 1st. The new net price for Penioral is now $2.25 for twelve tablets—each containing 25,000 units. The new price brings the cost of penicillin in the more convenient tablet form down to the same price level as an equivalent number of units of injectible penicillin.

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## Community Rehabilitation Centers

The need for additional rehabilitation services and centers where the disabled and handicapped can receive post-hospital physical rehabilitation, psychosocial adjustment and vocational guidance and retraining is stressed in the final report of the subcommittee on civilian rehabilitation centers issued recently by the Baruch Committee on Physical Medicine.

The report, prepared by a group of six authorities with military and civilian rehabilitation experience, blueprints the organization and operation of model community rehabilitation centers. Emphasizing that such centers should integrate rather than duplicate the work of existing agencies, it outlines the organization and operation of proposed centers which would offer physical medicine (physical therapy, occupational therapy, physical rehabilitation), psychosocial adjustment, vocational guidance, social service, vocational education, special education for the handicapped, a sheltered workshop, brace and limb shop, research in rehabilitation, and an industrial program for the homebound.

The centers would not provide definitive medical treatment, but would bridge the gap between the bed and the job by following preventive and curative medicine and surgery with what the Committee terms "the third phase of medical care".

The report suggests that these centers might be established by communities as "living war memorials" by the action of local governments, civic groups, social agencies, or medical schools and hospitals. It is pointed out that both the construction and operating costs of such centers would be considerably less than for hospitals and would release needed hospital beds for sick patients.

Although the Committee does not give exact estimates of the operating costs of such centers as there are no identical institutions which can be used as guides, they express the opinion that the cost of maintenance of in-patients would be comparable to the costs of crippled children's hospitals and convalescent homes. Total program costs for physical therapy, occupational therapy, medical services, vocational testing, guidance and retraining, and psychosocial adjustment are estimated at $125 per patient, exclusive of dormitory care and food services. Such centers, once established, the Committee believes, would be relatively self-supporting as fees would be received from private patients, the Veterans Administration, state rehabilitation programs, industry and insurance companies. The report stresses the need for a system of mobile consultant clinics comparable to those which have been used in the cancer and crippled children's programs in order to carry opportunity to isolated, disabled persons.

The report was prepared by a special committee under the chairmanship of Dr. Howard A. Rusk, consultant in physical rehabilitation to the Baruch Committee on Physical Medicine; Dr. George G. Deaver, New York University College of Medicine and medical director of the Institute for the Crip-

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pled and Disabled; Mr. Lawrence J. Linck, executive secretary of the National Society for Crippled Children and Adults; Dr. Carl M. Peterson, secretary of the Council on Industrial Health of the American Medical Association; Mr. Michael J. Shortley, director of the Office of Vocational Rehabilitation; and Dr. Alfred R. Shands, Jr., medical director of the Alfred I. du Pont Institute.

Copies of the complete report are available from the Baruch Committee on Physical Medicine, Room 3500, 597 Madison Avenue, New York 22, New York.

### Government Action Against Cancer

Hearings were held in Washington, D.C., May 7th and 8th, on the Pepper-Neely bills which seek a government appropriation of $100,000,000 for an all-out war against cancer. Prominent cancer authorities were present at the hearings and spoke in support of the bills. These included: Dr. Howard J. Curtis, Columbia University; Dr. G. Failla, Columbia University Medical School; Dr. Harry V. Friedgood, president of the Cancer Research Foundation of California, Los Angeles, Calif.; Dr. Ira I. Kaplan, New York University School of Medicine; Dr. Rudolph Matas, Tulane University, New Orleans, La.; Dr. Cherwood Moore, Washington University School of Medicine, St. Louis, Mo.; Dr. John E. Moseley,, Sydenham Hospital, New York; Colonel Stafford Warren, and Dr. Richard H. Hoffman, New York.

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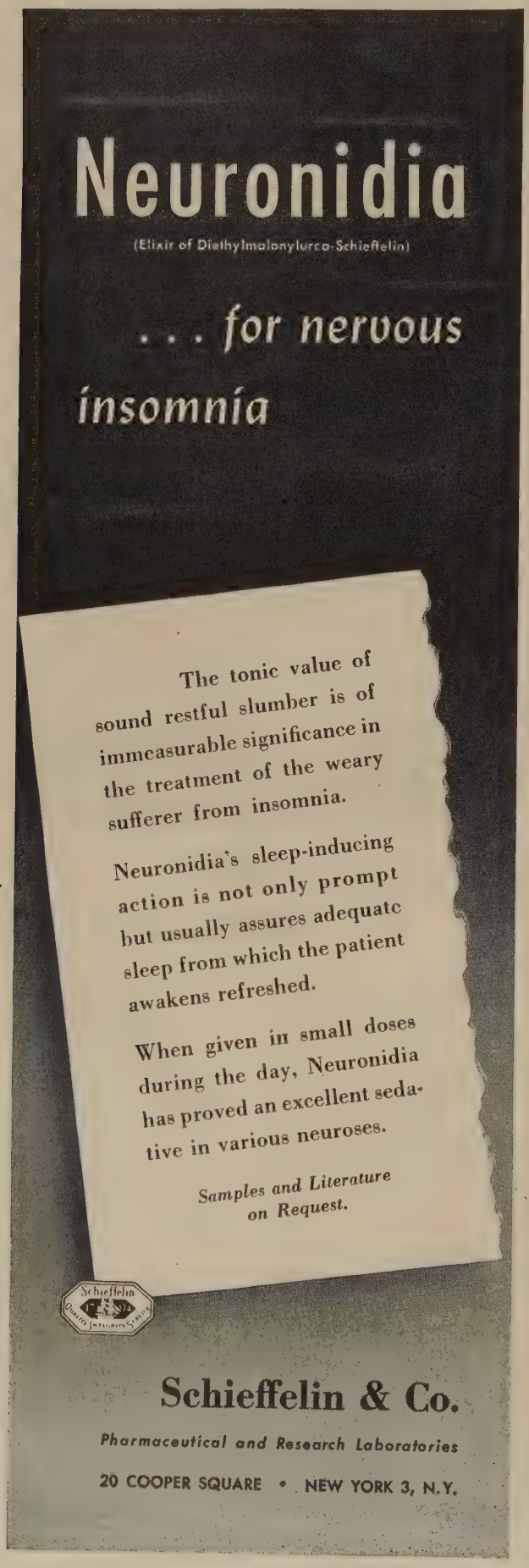
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## Fortieth Anniversary of Pure Food and Drug Law

Marking the fortieth anniversary of the enactment of the first Pure Food and Drug Act in the United States, the April *Bulletin* of the Office of Pharmacal Information hails the Act as "a landmark in the history of public health", and outlines the scientific progress made since June 30, 1906, when the law went into effect. It is pointed out that during the forty years since the Act was passed revolutionary advances have been made in medical and chemical sciences with corresponding advances in the manufacture of foods, drugs and cosmetics. The manufacture of packaged medicines has increased five-fold, and the proprietary industry has steadily exploited all the resources of modern science. Not only in manufacture but also in research has there been a broadening of interest, the report continues. The manufacturers of packaged medicines spend $8,000,000 a year in research—research in their own laboratories and research done, through cooperative agencies or grants, in many universities and other independent laboratories.

Qualified doctors, chemists, biologists, pharmacists and laboratory technicians now devote their skill and knowledge to the production, under rigid scientific controls, of even the simplest packaged medicine sold over the counter at the corner drug store. "The family medicine chest is not new, nor are many of the preparations used in the average home. What is new is the scientific confirmation, through research, of age-old empirical observations as to their therapeutic value, and the establishment of modern manufacturing procedures, and research, which assure uniformity of product and high standards of quality".


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## Influenza Epidemic Believed Due to Type B Virus

The mild form of influenza, which swept New York State in December 1945, has been demonstrated to have been associated with the type B influenza virus, according to a report published in *Health News*, March 18, 1946. Type B virus was recovered at the Division of Laboratories and Research from throat washings obtained from a patient with clinical symptoms of the disease in the Kingston area. This virus is reported to have been isolated also in New York City, Connecticut, Maryland, North Carolina, Iowa, Michigan, Minnesota, and Ohio, indicating that the influenza-like illness which was unusually prevalent during the same period in many sections of the United States was also of the form associated with this virus. The epidemic was not remarkable except perhaps for the mildness of the clinical picture, yet in its wake there followed a substantial increase in pneumonia incidence and mortality. The illness was described, for the most part, as mild and respiratory in nature although, in some instances, the clinical manifestations were predominantly gastrointestinal. In December, 1945, 662 deaths from pneumonia were reported and 779 in January.

From reports furnished by the United States Public Health Service, it was apparent that the situation in New York State was a reflection of nation-wide conditions. Influenza appeared first in mid-November and reached a peak during the week ending December 15 with a total of 148,914 reported cases. For the entire period November 18, 1945-January 26, 1946, the number of cases reported in the United States was 454,833 compared with only 32,620 during the same period a year ago. There was a concomitant rise in total deaths.


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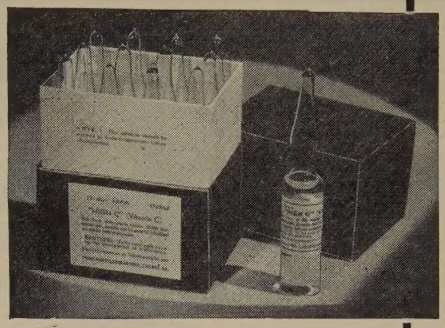

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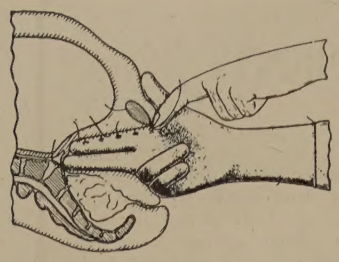

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## Health Education in Brazil

Dr. Charles W. Wagley, a social anthropologist of the Institute of Inter-American Affairs, says that, in an effort to raise national living standards, Brazil has launched a campaign to arouse community interest in public health. One phase of the campaign involves the formation of health clubs among school children throughout the Amazon Valley. The drive is in charge of the Servico Especial de Saude Publica (SESP), a public health organization established in Brazil in 1942 in cooperation between Brazilian health authorities and the Institute of Inter-American Affairs, an operating agency of the Office of Inter-American Affairs.

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| PROTEIN | 32.3 Gm. | VITAMIN $B_1$ | 1.16 mg. |
| FAT | 2.5 Gm. | RIBOFLAVIN | 1.55 mg. |
| CARBOHYDRATE | 66.3 Gm. | NIACIN | 6.81 mg. |
| CALCIUM | 1.12 Gm. | VITAMIN C | 39.6 mg. |
| PHOSPHORUS | 0.939 Gm. | VITAMIN D | 400 I.U. |
| IRON | 12.0 mg. | COPPER | 0.50 mg. |

*Based on average reported values for skim milk.

# COULD THIS BE YOUR HOUSE?

**Now that the war's over** and a lot more civilian goods are on the market, it's a big temptation to spend just about all you make, and not put anything aside.

But to fall for that temptation is plenty dangerous. It's like trying to live in the house above—a house that might come tumbling down about your ears at the first little blow of hard luck.

Right now the best possible way to keep your finances in sound shape is to save regularly—*by buying U. S. Savings Bonds through the Payroll Plan.*

**These Bonds are exactly** like War Bonds. Millions of Americans have found them the safest, easiest, surest way to save. The U. S. A. protects every dollar you invest—and Uncle Sam gives you his personal guarantee that, in just ten years, you'll get *four dollars back for every three you put in!*

**If you stick** with the Payroll Savings Plan, you'll not only guard against rainy days, you'll *also* be storing up money for the really important things—like sending your children to college, travelling, or buying a home.

So—anyway you look at it—isn't it smart to buy every single U. S. Bond you can possibly afford!

## SAVE THE EASY WAY... BUY YOUR BONDS THROUGH PAYROLL SAVINGS

## ★ MEDICAL RECORD ★

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